

CYBER-6

THE REALTIME-ENHANCER

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Hiermit wird bescheinigt, daß der/ die/ das

Quasimidi CYBER-6

Gerät, Typ, Bezeichnung

in Übereinstimmung mit den Bestimmungen der

Amtsbl. 1046/ 1984

Amtsblattverfügung
funkentstört ist.

Der deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

Quasimidi Musikelektronik GmbH

Name des Herstellers/ Importeurs

IMPORTANT INFORMATIONS - READ CAREFULLY BEFORE USING

to avoid risk of electrical shock do not take off the cover of the keyboard. Maintenance and service by qualified personal only. To ensure a long-time use and fun please following instructions.

- read all instructions carefully
- do not use this product close by water
- leave the keyboard in location with sufficient ventilation
- do not use the CYBER-6 in dusty places
- the keyboard should only be used on power supply systems described here and on the keyboard
- when the keyboard is not to be used for a longer time disconnect power cord from the AC power outlet
- at the beginning of a thunderstorm disconnect plug from outlet
- avoid mechanical loads as pressure and tensile
- for removing the main lead only pull plug
- for connecting this keyboard with other equipment please follow the instructions in this script
- do not expose the keyboard to moisture
- should any liquid or solid object fall into interior of keyboard unplug the CYBER-6 immediately and get in touch with us
- the keyboard should be checked by qualified personal if.
 - a) power plug is damaged
 - b) objects or liquids have penetrated the case
 - c) the keyboard does apparently work properly and shows faults which are not listed in this manual
 - d) the keyboard was exposed to rain
 - e) the CYBER-6 has fallen down or case is damaged
- refer servicing to qualified personal only
- the original packing of Cyber 6 is ideal for dispatch. Thus keep the original packing and you will have no problems in case of mailing
- when opening the CYBER-6 without pulling the power cord or in case of any objects or liquids in the case there is danger for life

TABLE OF CONTENTS

Introduction	5
Basic Operation	5
Connection	7
Exercise 1:	8
Playing of example-programs	8
Using Cyber 6 as a simple midi-keyboard with changing programs	10
Organisation of the MIDI-channels	10
editing the master-keyboard programs	11
Selection of MIDI-channels and key-window of the keyboard-zones	12
Exercise 2: playing different synthesizers	13
playmode and zone-status	13
Selecting the program-change and adjusting the volume for the different zones	14
Naming of the masterkeyboard-program	15
Storing the masterkeyboard-programs	16
Exercise 3: Programming of Basic-Programs.	16
Transposing	16
Exercise 4: Programming of examples with Transpose function.	17
Activating the realtime controllers.	17
Invertation of realtime-controllers	18
Motivator-Assignment	19
Exercise 5: Selecting different motivator-programs	19
Realtime controller assignment	20
exercise 6: assigning the realtime-controllers	22
Footswitch assignment	22
realtime control to sequencer and motivator	23
modulation of the motivator	23
Modulation of the sequencer	24
How to trigger motivators from the sequencer	25
Editing the motivators	26
The operating modes of the motivators	27
exercise 7: get to know the parameters in the arpeggiator-mode	29
rhythmizing the motivator-patterns	30
How to edit the instruments of the motivator	32
exercise 8: using all motivator-functions	33
Saving the motivator-settings	33
how to copy from one motivator to the otherone	33
basics of the CYBER-6 sequencer	34
pattern-oriented parameters	34
track oriented parameters	36
Realtime Recording	38
Exercise 9:	39
The realtime recording	39
Der TR-909 Drum-Programmer	39
Step by Step recording	41
exercise 10: get to know the drum-programming	41
recording of other controller	42
Realtimecontrol of sequencer tracks	42
Deleting MIDI-controller messages	43
SNAPSHOT-COPY: Transmission of Motivator themes into the Sequencer.	43
Copying track parameters	44
Copying an entire pattern	45
Mix down of tracks using the same midi-channel (track-bouncing)	45
Track copy	45
The chain-mode	46
Playing a chain	47
Chain-programming	48
The motivator-freeze-funktion.	50
MIDI-Dump-Functions	51
Initialization of the memory	52
Kalibrierung der Spielhilfen	52
selecting the key-velocity curve	54
Assigning of special footswitch-functions	55
COMPLETE INITIALIZATION	56
The Sysex-Dataformat	57
converting of standard-MIDI files into the cyber-6's dump format	59
MIDI-Implementation	60

INTRODUCTION

Introduction

Congratulations for purchasing Cyber 6. You not only get a standard masterkeyboard but also a very complex machine to enhance your live and studio sequencing and composing. You will create life-operations less stressfully and first of all in a more interesting way. With Cyber 6 at your disposal you have a rational management of your instrument park and a precious live-sequencing-function which offers you new possibilities in life-management. Here is a short survey about Cyber 6's principal functions:

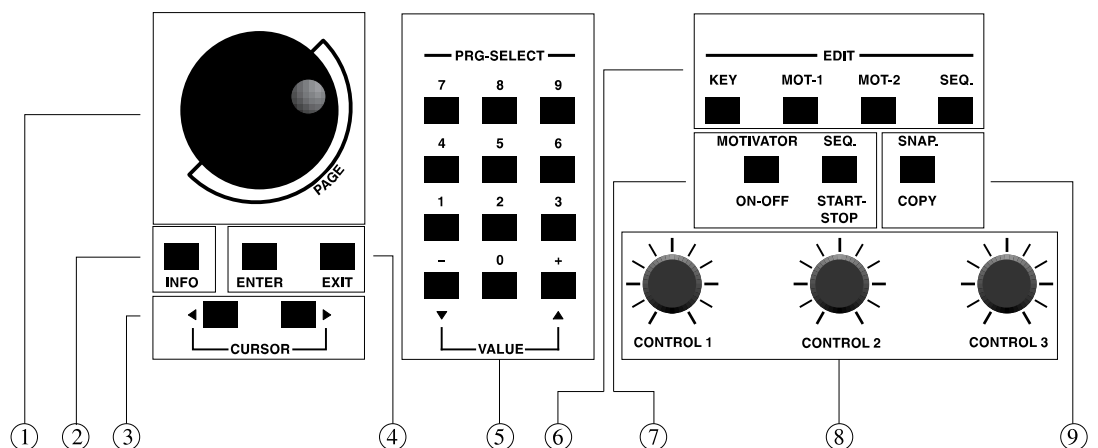
- 1) keyboard with 5 octaves, key velocity and aftertouch
- 2) various possibilities of sound manipulation with three wheels, three controllers, foot controller and two foot-switches
- 3) masterkeyboard-functions which enable simultaneous and independent control of max. 8 synthesizers and expanders
- 4) two motivators with new arpeggiator-effects, gated-chords and wave-sequencing
- 5) a powerful sequencer with much possibilities and interventions during live-operations
- 6) drum-programs in the fashion of TR 909
- 7) Up to 32 midi-channels over two midi-outs

First of all, these features cause enthusiasm after reading this manual a little bit. However reading alone will not be enough. We advise to put the presented exercises into practise. You will find the exercises after every chapter. With this methode you will be able to achieve the best learning results.

With the exercise we are trying to clarify the presented parameters which might still be unclear after reading the chapters: Have great fun with "learning by doing".

Basic Operation

Cyber 6 offers a big deal of functions. At the beginning try to recept the positions of the keyboard and operating elements. This facilitates the exercises in the following chapters. The illustration shows the operating section of Cyber 6:



- ① The page-dial is a means to select various displays pages in the edit-menu. If you are not within one of the edit-menus you can change in from one operating-system to another with the page-dial.

- ② The "info"-key facilitates managing midi-channels. While pressing this key a "channel-usage" -display appears explaining which midi-channels is controlled by what section of Cyber 6. Cyber 6 offers following sections at your disposal:

- | | |
|-------------------------------|--|
| 1.) masterkeyboard (K) | The letters in brackets appear on channel-usage-display on the channel which is used |
| 2.) motivator arpeggiator (A) | by the section. Small letters appear when channel |
| 3.) motivator-gater (G) | is occupied but not used by section. |
| 4.) motivator-chord-play (C) | |
| 5.) sequencer (S) | |

example:



Each of these sections can steer up to 8 channels at the same time. For receiving a better survey you can use "channel-usage" - display any time in order to make clear which midi- channel is being used at the moment. Above the display the numbers 1 - 32 are printed number 1 - 16 correspond to midi-channel 1 - 16 exit A. Numbers 17 - 32 correspond to midi- channels 1 - 16 exit B. If there is a (K) beneath figure 1 on the display the midi- channel 1 exist.

K means, that this channel is used by the masterkeyboard. If there is an A beneath 17 on the display, midi-channel 1, exit B is controlled by one of the two motivators within the arpeggiator-mode. The first 32 white keys are also numbered 1 - 32. If you press an occupied midi-channel with a key while holding the "info"-key, Cyber 6 automatically jumps to the edit menu of the corresponding section. The "info"-button is also a great help in the selection of midi-channels. All submenus, which are relevant for midi-channel-selection are working with the "info"-button. When the channel-selection is highlighted, you can select the midi-channel by holding the "info"-button down and pressing the corresponding white key of the keyboard. This facilitates selecting midi-channels not yet occupied. In case of double assignment the corresponding sections are displayed on the display by turns.

- ③ With the cursor keys you can tap single parameters of a display page. After having reached the last parameter of one page, the cursor jumps back to the first one.
- ④ With "enter" - key numeric value entries of the number are confirmed. Parameters, which allow selection of key-numbers such as a splitpoint or a transpose can be loaded directly over the keyboard by holding down the "enter" - key. If you want to exit the edit menu press "exit".
- ⑤ The keyboard has two different functions. By using triple-digit numbers from 001 to 128 the 128 masterkeyboard-programs can be called during operation. If you do not want to punch in a triple -digit number each time, you can leave the corresponding zero of numbers without 10's and 100's. However, after entering the number press "enter".

example:

selecting program no. 4:

either: (004) enter
or (4) enter

During editing, numbers can be punched in the same manner. Further, the "+/-"-buttons allows increasing and decreasing of values.

- ⑥ With the four "edit" - buttons the four edit menus can be chosen. There are following edit-menus:

[KEY] = masterkeyboard-edit [MOT 1] = motivator 1-edit
[MOT 2] = motivator 2-edit [SEQ] = sequencer-edit

- ⑦ As already mentioned at the beginning, the Cyber 6 does not only contain masterkeyboard-functions, but also two motivators and one sequencer. The masterkeyboard can automatically call on motivator-programs. They start automatically when playing the keys within the motivator section. If the start of the motivators is to be avoided, they can be turned off with the "mot. on-off" - key after calling on the masterkeyboard-program. The motivators are only started when this key is pressed again. With the "seq. start-stop" - key a sequence can be started or stopped.

- ⑧ These three sliders serve the real time control with the help of midi-controllers. Which midi- controllers are sent by the sliders is assignable in the masterkeyboard-program. Thus it is possible that there are different functions on these sliders for every masterkeyboard-program. Besides there three sliders, Cyber 6 contains further freely programmable realtime-controller:

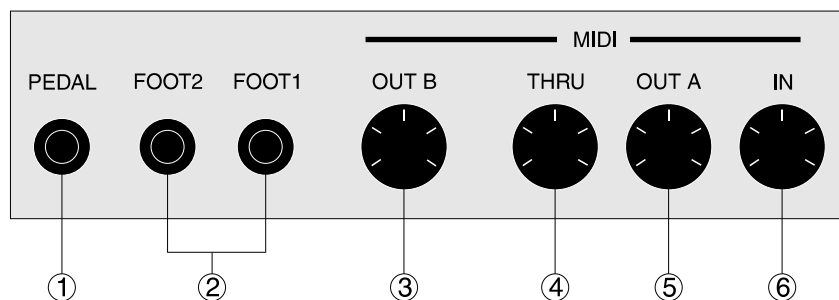
- two wheels in addition to the pitch-bender
- channel aftertouch
- connecting point for a foot-controller and two footswitches

In addition to the sending of midi-controllers these sliders can control motivator and interior sequencer parameters. The sliders` current data are not being stored in masterkeyboard-programs.

- ⑨ The "snap./copy" - key enables copying the notes created by the arpeggiator into the sequencer backup. Like a Cyber 6 sequence, a snapshot can be transposed in real time over the keyboard.

- ! Another important data-input device is the keyboard. This is the reason why there is a print above the keyboard. The white keys are for the punching in letters for naming and together with the "info" - key midi-channels can be programmed and sub-menus selected (also see description "info" - key). For programming rhythmic structures in the arpeggiator and sequencer the keyboard contains particular functions. In this context the first 32 white keys can be used to put in rhythms in the manner of Roland TR 909. This function will be described in details later.

Connection



- ① Connect the pedal-jack with a foot-controller. The jack is manufactured as a stereo-handle. The resistance should be 10 to 50 k ohm. We have made very good experiences with a Yamaha FC-7 foot-controller. Like the wheels and other Cyber 6 realtime-controller, the function of the foot-controller can be assigned for every masterkeyboard-programs.
- ② Both footswitch jacks can be connected with footswitches. If the controls are already connected when you turn the Cyber 6 on, the polarity will automatically be detected. Footswitchers send midi-controllers as well as sequencer and arpeggiator parameters. •

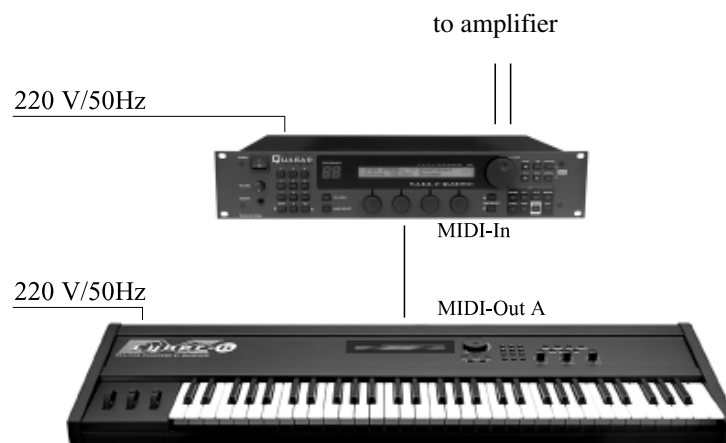
BASIC OPERATION

- ③ Synthesizers and expanders which are controlled by midi-channels B1 - B16 are connected to midi out B jack. Due to this second midi output Cyber 6 can manage 32 midi-channels. Connect midi outputs with the midi inputs of your synthesizers, expanders and midi-controllable effect-units.
- ④ The MID-Input jack is internally connected to the MIDI-thru jack. If you want to connect a midi-source to the CYBER-6 and another midi-device, you can connect the other device with the midi-thru jack. It gets the same data like the CYBER-6. On this jack Cyber 6 does not send any own data. However, if more than five MIDI-devices are connected in a thru line, data might be lost during midi transmission.
- ⑤ Midi-channels A1 to A16 are situated at the "midi out A" - jack. Synthesizers which are to be controlled by these channels correspondently to be connected with their midi-input to this jack.
- ⑥ The "midi-in" - jack is responsible for receiving midi-data. This Cyber 6 midi-input is only being used for receiving tempo-informations and data exchange with other midi-devices (system-exclusive-data). CYBER-6 offers also a soft-thru-function for sysex-data of other midi-devices. From a data-filer you can transmit midi-data to devices, which are connected with the midi-output of the CYBER-6.

Exercise 1: **Playing of exam-** **ple-programs**

You have learned how to use the keyboard and how to connect it. Now we would like to give you an example. For immediate use of Cyber 6, we have programmed 30 masterkeyboard- programs through which you will get to know the different kinds of utilization. As we do not know what kind of equipment you are going to use, we have split up our masterkeyboard-programs into three sections:
The first ten programs 01 - 10 have exclusively been programmed for the Quasar. For a proper performance Quasar should be set to performance and multichannel operation. Tune the master channel to 13.
The next ten programs 11 - 20 have been programmed for Technox. In order to hear them according to our programming, Technox must be set to the sequencer-mode.
Customers who don't have a quasimidi synthesizer but a general-midi-device can try out program 21 - 30 which are GM compatible. Thus they can be used alongside any GM compatible midi expander or synthesizer. Quasar users can use both first 10 programs as well as 21 - 30. Nevertheless, when using the GM-programs, Quasar should be set to GM mode in order to ensure a proper function.
We have only used the midi-channels 1 to 16. So you have to connect the midi-output "A" of the CYBER-6 with the midi-Input of your soundsource. The expander or synthesizer must certainly be connected to an amplifier.

Connecting plan:



EXERCISE 1: PLAYING OF EXAMPLE-PROGRAMS

When everything is connected, please turn the power on in the right order: (CYBER-6, Sound-source, amplifier). After turning the power on, the CYBER-6 jumps to the main-menu. With the "page-dial" you can call various display-pages. The first page is for loading the masterkeyboard-programs.

```
|1> CYBER-6
Program 1 Layer
```

With +/- keys you can call various example programs. It is also possible to load directly via the corresponding program number plus pressing the "enter" key. The chart below contains the various example programs. 10 programs have the same function and have been programmed for various tone-generators.

Prg.No.	name	function
1&11&21	layer	pad sound of several voice-colors
2&12&22	split	several sounds with keyboard split
3&13&23	arp 1	split bass-arpeggio left and solo-sound right
4&14&24	dualArpe1	left two arpeggios and solo-sound right
5&15&25	dualArp2	one arpeggio left and one arpeggio right
6&16&26	gater	bass-arpeggio left and gater-effect right
7&17&27	chords	bass-arpeggio left and chord-rythm right
8&18&28	waveSeq1	different mono-wave-sequences left and right
9&19&29	waveSeq2	bass-arpeggio left and chord-wave-sequences right
10&20&30	chrdHold	holden layer. Hold accord still to the next change (special gater-function).

During trying the example-programs please also use the realtime-controllers of Cyber 6. Wheels and sliders are assigned to different functions. With the "info" -button you can see which midi.channel is selected by which section.

Apart from the masterkeyboard-program there are some grooves and sequences in storage. You can call them by chain-play-mode (chain-play, page 46). On the CYBER-6 chain-play-mode you can program a course of sequence-patterns and masterkeyboard-program-calls. In this way you have the possibility to program complete songs with Cyber 6. You find the chain-play-mode on the second page of the main-menu.

```
< 2>      11111111  (MKB:  1 PAT: 1 )  DEL
Chain: 1 Step: 1 Bars: 0                      EDIT
```

With "+/-" buttons you can load a "chain". Chain numbers marked with a star * are empty. So it makes no sense to load them. With "enter" - key you can confirm a "chain" - selection. With "seq.-start/stop" you can start the chain-song. When started, the cursor is automatically set to the "Step"-parameter. With "+/-"-buttons you can jump one step forward and backwards. With the "enter"-button you can freeze a song-position until you press the "enter"-key again. The first two chains are programmed for Quasar, the next two chains for Technox and the last two chains for GM tone generators. With chain-play-mode masterkeyboard program and sequence-pattern will be loaded automatically.

The first one or two octave of the keyboard are often assigned to the realtime-transpose-feature of the CYBER-6. At the end of the chain, the sequencer will be stopped. To start chain again it must be loaded again. Let's have a lot of fun with the sequences and masterkeyboard-programs!

ORGANISATION OF MIDI-CHANNELS

Using Cyber 6 as a simple midi-keyboard with changing programs

You will get very soon an impression of different kinds of utilization of Cyber 6. Using all the presented example-programs you will avoid a lot of work. If you have erased the example- programs you will get them back by initialization (total initialization of Cyber 6, page 57).

Now you know the complex features of Cyber 6. But if you want to have only a very simple MIDI-keyboard, which would send only your handmade keyboard-playing to expanders or sequencers, try the next function of CYBER-6. With the following mode Cyber 6 sends on only one midi-channel like any other standard synthesizer or keyboard. The realtime-controllers are assigned to the standard controllers. You will find this mode on display-page 3 of main-menu. After dialing this page with alpha-dial you should get following display-report (program numbers and volume-amount can vary):

```
< 3> CYBER-6           Volume: 100  
Channel:A 1 Bank: 73 Program: 52
```

desired input	parameter	operation
Changing of midi channel of keyboard	Channel	change with "+/-" keys or direct dial with help of channel-usage-display
Changing of program-change-bank	Bank	change with "+/-" keys or direct with number keys with following "ENTER"
Changing of program-change-number	Program	change with "+/-" keys or direct with number keys with following "ENTER"
Changing of volume	Volume	change with "+/-" keys or direct with number keys with following "ENTER"

With "cursor"- buttons you can select the parameters. With "number"- or "+/-" -buttons you can change the corresponding amount. During the selection of the midi-channel you will see, that according to the selected channel - bank changing and program numbers are yet visible.

Organisation of the MIDI-channels

In a masterkeyboard-program you can fix the synthesizer which you will load on keyboard. By changing only the program-number of the CYBER-6 you can change between different synthesizer, between layer and split setups and so on. With Cyber 6 you can use eight keyboard- zones at the same time. The zones can lay on the top of each other or side by side. Every zone has a key-window which is described with the "lowest key"- and the "highest key"-parameter.

To have an independent access to different synthesizers which are connected to the same midi-output, it's necessary to set them to different midi-channels. Multimode-synthesizers like our quasar have different midi-channels in one box, so that it can be used like several independent synths.

It makes no sense to use the same midi-channels for different sections of the CYBER-6. You can not use the same channel for masterkeyboard and motivator at the same time because your synthesizer will not work at the same time with more than one program at one midi-channel.

When you use certain midi-channels in the masterkeyboard-programs and all motivator-programs and other midi-channels in motivators and sequencers you can combine all motivator- programs with every masterkeyboard-programs without risk of a double reservation. It is also possible to combine all

ORGANISATION OF THE MIDI-CHANNELS

masterkeyboard-programs with motivator-programs without having conflicts with the midi-channels.

Following table shows the assignment of the midi-channels in our example-programs:

MIDI-channels ->	A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11	A12	A13	A14	A15	A16
Synthesizer	MIDI-channels as used by: K = masterkeyboard, M1 = motivator 1, M2 = motivator 2, S = sequencer															
QUASAR	M1	M1	M1	M1	M2	M2	M2	S	S	S	S	K	K*	K*	K*	K*
TECHNOX	M1	M1	M1	M1	M2	M2	M2	M2	S	S	S	S	K	K	K	K
GM-kompatible	M1	M1	M1	M1	M2	M2	M2	M2	S	S	S	S	K	K	K	K

K = MIDI-channels be used by Quasar Performance*

The first eight midi-channels are used by the motivators. The following 3 - 4 midi-channels for the sequencer further 4 - 5 for masterkeyboard-programs. Using only one midi-out there are totally 16 channels at your disposal. Using also midi-channel B you will get 16 channels in addition.

editing the master-keyboard programs

Now you will learn to make masterkeyboard-programs by yourself. To get an impression of all possibilities please pay attention to following table:

	Page	Menue-Contents
Zone-parameters: This parameters can be tuned seperately for each keyboard-zone. Every keyboard zone has its own midi-channel, program change etc. Further, you can decide for every keyboard-zone, which kind of midi-data will be send, when the realtime-controls are used.	1	midi-channel and keyboard-zone
	2	play-mode and global zone-parameters
	3	volume, bank- und program changes
	4	transposition and footswitch On/Off
	5 bis 8	controller on/off and polarity
This parameters have an effect for the whole masterkeyboardprogramm. So you can not change these values for individual zones. Here you fix the functions of realtime controls, assign sequencers and motivator-tunings to masterkeyboard-programs and decide between internal and external synchronisation. The finished program can stored in this menus.	9	motivator zone-assignment
	10 bis 13	controller definition
	14 bis 15	motivator: realtime controller assignment
	16	selection of sequence, tempo, Start-Mode
	17 bis 18	sequencer: realtime-controller sssignment
	18	synchronisation und trigger-options
	19	choice of name
	20	save procedure

Selection of MIDI-channels and key-window of the keyboard-zones

As the table shows parameters of masterkeyboard-programs are divided into two areas. The first area is responsible for all parameters which can be changed individually for every keyboard-zone. The second zone is responsible in general for the selected masterkeyboard-program. A different definition for individual keyboard-zones is not possible. The consequence for the controller of Cyber 6: you can fix an active controller for each keyboard-zone. If a keyboard-zone is assigned to midi-channel A 01 and pitch-bending is activated, Cyber 6 pitch-bending sends on this midi-channel. You can program for the total masterkeyboard-program which midi-controller is sent on this midi-channel by using a controller. That is the reason why it is not possible to send different midi-controllers on one controller at the same time, but the same midi-controller on several midi-channels.

If you feel constricted, consider, that a total free according of all playing aids of each zone contains a Cyber 6's deficit of power of midi-place of intersection. Forgetting this it would be possible to send 8 different midi-controllers on one program with one slider at the same time.

Besides, you will get problems with timing. In practice our mode proves it's worth. It is a compromise between a rich realtime control and a midi-place of intersection's restriction of speed caused by the midi transfer rate.

When Cyber 6 is switched on, it is set to the masterkeyboard-mode. If you have searched in the menus of Cyber 6, press exit-key and turn the big page-dial left to reach the masterkeyboard-playmode. The display shows following:

```
|1> CYBER-6
Program 001 Layer
```

Before selecting the masterkeyboard-edit-menu please load program 31 (operation: (31) (Enter)) This program is built up very simple and spartanic, that's why it is a good basic to get to know the features. The display shows following content:

```
|1> CYBER-6
Program 031 Basic
```

Press "edit-keyb" -button. Now Cyber 6 is in the masterkeyboard-edit menu. You see the selected Menu page in the first display line at the left side. If it is not dialed yet load it with page-dial of menu 1. The following display-report appears:

```
|1> Keyboard                               Zone:1
Channel: A 1  LowKey: C 2  HighKey: C 7
```

In the first edit page you can choose the synthesizer which will be played at the selected zone. This works by using different midi-channels for different synths. So you have first to make sure, that all your synthesizers are set to different midi channels. Select the midi-channel [channel] of the desired synthesizer. To select a different zone, choose the parameter "zone" with the cursor-keys and select one of eight zones with the "+/-" buttons. We start with keyboard- zone 1. You can select the zone in all edit menus with zone-refered parameters.

EXERCISE 2: PLAYING DIFFERENT SYNTHESIZERS

Also parameters of a menupage can be dialed with "cursor"-keys. Put the cursor to the desired parameter and change it as follow:

desired function	parameter	operation
selecting the midi-channels of zone	channel	Change with +/- keys or direct dial with "channel-usage" display. Prefer dialing with "channel-usage" display to avoid a double reservation of midi-channels. Press "info" key and chose midi-channel with the first white keys (chapter "principal operations"). With +/- keys you will reach amount "—" in this position the zone is not activated because there is no active midi-channel.
changing the lowest note of the key-window	low key	Select the parameter with the "arrow"-buttons and change the value with the "+/-"-buttons. While holding the "enter"-button you can also select the lowest note with the keyboard.
changing the highest note of the key-window	high key	Select the parameter with the "arrow"-buttons and change the value with the "+/-"-buttons. While holding the "enter"-button you can also select the highest note with the keyboard.

Exercise 2: playing different synthesizers

Using the first edit-page of the masterkeyboard-edit menu, it is possible to select all connected synthesizers. Please enter the used synthesizers and expanders - in accordance with the dialed midi-channel - to setup-tables which are enclosed to Cyber 6. This facilitates the orientation of our midi-system.

It make sense to reserve groups of midi-channels for different sections of cyber-6. Then it's possible to combine different sequences, motivator-programms and masterkeyboard-settings, because you don't have problems with double used midi-channels. In our demonstration programm, we have reserved the first eight midi-channels for the motivators, channels 9 to 12 for sequences and the channels 13 to 16 for the masterkeyboard section.

By changing the midi-channel, you can now select and play all your synthesizers one after another, when the are set to different receive-channels. If there is one expander or synth, which correspond on every channel, it's set to midi-omni-mode. In this case switch off the OMNI-mode in accordance with your synthesizer-users manual. For best use in combination with the CYBER-6, use MULTI-mode or POLY-mode at your synths.

Changing of parameters "lowKey" and "highKey" enables you to restrict the synthesizers playing to a key-window. Next step will be to dial another zone and to activate another midi-channel. By using the same key-window in more than one zone with different midi-channels, you have the possibility to create rich, fat stack sounds. Using the described parameters will enable you to put max. 8 synthesizers on the top of each other or side by side. If you work with one multi-mode-expander and if several keyboard-sections load different sounds of a single synthesizers of it you have to pay attention to polyphonie and instrumental-timing. The reason for timing-problems is often a problem of tone-generators and not a problem of the Cyber 6.

playmode and zone-status

Select the second menu-page of keyboard-edit with the alpha-dial. The following display-message appears:

```
<2> Keyboard
Zone:1
MODE: Poly  Status: Play Zone
```

In this menu you could change playmode of the controlled synthesizers and keyboard-zone's function. The following table shows all parameters:

PROGRAMMING THE MASTERKEYBOARD

desired input	parameter	operation/explaining
changing playmode of tone-generator	mode	Change with +/- keys. Two values are possible: 1.) mono-mode - the synthesizer or part of synthesizer will be switched to the monophone playmode. 2.) poly-mode - the synthesizer can be played polyphon. Not every synthesizer offers the monophonic playmode.
selecting the zone-status	status	Change with +/- keys. Three positions are possible: 1.) play-zone. This status accords to the principal tuning. Zone can be played with keyboard. Use this parameter to select a synthesizer. 2.) device/remote: Realtime Controller and program-changes will be sent. But this zone does not sent note-informations. Use this tuning for effect-unit control. Effect program-changes can be automated. 3.) control-only: In this setting neither notes nor program-changes will be sent. A zone programmed like this can be used to control a motivator. You can also send a controller to a synthesizer which is played by the sequencer or motivator.

Please try to use both new parameters. You can imitate the way of playing natural solo-instruments or old monophonic analog synthesizers. The monophone playmode of this instruments allows technics wich are not available by using polyphonic playmode.

Selecting the program-change and adjusting the volume for the different zones

Now we present the most important function of masterkeyboards. After learning to use the following parameters you will be able to program extensive live-setups. Only by selecting another Cyber-6 program you will select the desired program-change- and bank-numbers and the volume settings of the connected synths. Select menu-page 3 of the masterkeyboard-edit menu to reach the following display-message:

```

<3> Keyboard                               Zone:  1
Bank:    0   Program:    1   Volume:100

```

Some synths have more than 128 programs. With the program-change command you can only select 128 different voices. For this reason the synthesizer manufactures invited a second midi-message to give the possibility to choose between different program banks. This Midi-message is called "bank-select command". Before sending the program-change you have to use the bank-change command to select the desired Program bank.

At the CYBER-6 the parameter "bank" allows the input of a bank-select command. Like the program-change also the bank-select command has 128 different values. The CYBER-6 always will send the bank-change automaticly, if you select a new program-change number.

PROGRAMMING THE MASTERKEYBOARD

desired action	parameter	operation/explaining
adjusting of keyboardzone	volume	Input of volume with +/- keys or directly with number and "enter" key.
dailing of bank-number	bank	selecting the bank with +/- keys. At Quasar's GM-mode the first 65 program-change-banks are identical. A change arise at the 66th bank-change. This is necessary to get a compatibility with general-midi's data format.
selecting of program-number	program	selecting of program-change with +/- keys or directly with numbers followed by the "enter" button.

With the next aquired knowledges you will be able to program layer, split- and solo-programs. In the next chapter you will learn to save your work and to give your programs names

Naming of the masterkeyboard-program

All settings you have changed in the chapters before and also the parameters you will hear about in the following chapters of masterkeyboard editing could be saved in 128 programs. Nevertheless you don't know everything about the CYBER-6's masterkeyboard capabilities it's useful to learn now, how to save the changes you made in a new program.

One important information in association with the masterkeyboard programs are the motivator parameters. They will not be stored automaticly within the masterkeyboard-program. In the master-keyboard-program you only select the number of the desired motivator-program. The motivator-settings have to be stored in the motivator memories. After saving motivator-program, you select the motivator-program number inside the masterkeyboard-edit menu which will be called by the the master-keyboard-program.

For better access on stored programs it's useful to give your programs names. For that reason the first step in the save procedure is the entry of the desired name. You will find this submenu on page 19 of the masterkeyboard-edit menu. Select this page with the alpha dial. The following display-message will disappear:

```
<19> Program-name
      (ENHANC 1)
```

When you select this submenu, you will find the cursor direct at the first character of the name. All you have to do is to select the character you want to change with the "cursor"-buttons and change the character with the "+/-"-buttons. Further, you can also change the selected character with the white keys of the Keyboard. To do this, you must hold the "enter"-button.

When you have noticed the position of the different characters on the Keyboard, the procedure of naming a program is very fast and much better than using the "+/-"-buttons.

Storing the masterkeyboard-programs

To store the new program select the submenu 20 with the alpha-dial. The following display-message will disappear:

```
<20> STORE KEYB Program in
? 31 Patch1
```

With the "+/-"-buttons and also with the "number"-buttons, you can select a program-number between 001 and 128. The name of the destination program, which will be overwritten is shown in the display. After pressing the "enter"-button a dialog will disappear, which will ask you, if you really want to store the new program at the selected number:

```
REALLY STORE KEYB Program in
? 31 Patch1
```

If you press the "enter"-button again, the new program will be stored at the selected number. The display confirms the store procedure. With the "exit"-button you can quit the masterkeyboard-edit menu.

Exercise 3: Programming of Basic-Programs.

You have now heard about the basic features of the masterkeyboardsection. Before coming to the advanced functions, it's useful to get closer to the basic features. The best way to learn more about the masterkeyboard features is to work on the basics by programming basic patches. Later, you can use these basic patches as feedstock for more complex programs. As an example, you can program the following basic programs:

1.) Layer 4-Program

Four different sounds layered in the same key window. This kind of program creates a rich fat sounds and is the basic programming for textured pad-sounds and Ambient voices. For this kind of programs you need 4 keyboard zones in play-mode with different midi-channels all with the same key range.

2.) Split-program with two sounds on each side of the keyboard

Creating Split-Programs with two layered sounds on each side of a selectable splitpoint is possible when you use two pairs of keyboard-zones with the same key-range.

With this basic-programs it's very easy to create other Sound-combinations by only changing the program-change numbers of the used synths.

Transposing

Each of the eight keyboard zones are transposable in a range of 3 octaves up and down. With this feature you have for example the possibility to play a deep bass-line with your right hand. Keyboarder, with a virtuos and fast right hand will welcome this feature. But also for layered pad-sounds it is very useful to control different synths with one key in different pitches. For fat solo-sounds you can also layer four or more synths all with different intervals. With simple waveforms on the different synths you have a creative additive synthesis controlled by CYBER-6.

The transpose-parameter is available on submenu 4 of the masterkeyboard-edit menu. You can select this sub-menu with the page-dial. The following display message appears after selection:

```
<4> Keyboard Zone: 1
Transp:C 3 FootSw1:OFF FootSw2:OFF
```

At first select the keyboard-zone you want to transpose. Then you select the parameter "Transp" (Transposes) with the "cursor"-keys. After selecting the parameter you have two different ways to change the transpose-value:

1.) change the transpose value between C0 and C6 with the "+/-"-buttons in halftone steps. The original pitch is at the value C 4.

AKTIVATING THE REALTIME-CONTROLLERS

Exercise 4: Programming of examples with Transpose function.

2.) While holding the "enter"-button you can also change the pitch by pressing only the desired transpose offset at the keyboard of the CYBER-6. The original pitch is at C 4 on the keyboard. At the top of the keyboard you see printed numbers between 1 - 32. The key direct under the number 15 is the note C 4. Notes higher from this point will increase the pitch and keys lower from this point will decrease the pitch.

To learn more about the effect of the transpose parameter it's useful to try out the new function with a few example programs. For the following examples you need a program which contains 4 zones which are layered with the same key window. You can use for every zone the same midi-channel, but be careful with the input of program-changes and volume. It must be the same at every zone when using one Midi-channel. In the listing below you see four different examples of typical transpose-settings:

Example 1:

zone 1: C2
zone 2: C3
zone 3: C4
zone 4: C5

Example 2:

Zone e: C2
Zone 2: G2
Zone 3: C3
Zone 4: G3

Example 3:

Zone 1: C3
Zone 2: D#3
Zone 3: G3
Zone 4: C4

Example three is a good setting for techno-chords. Check out your own chords by setting other values. In the next chapter you will learn everything about the realtime controllers. If you want to play programs with layered and transposed keyboard zones with the same midi-channel, it's necessary to filter the realtime controllers of all zones except of one to reduce the midi-data stream. By activating the realtime-controller for all zones, you send every controller message four times to the used synthesizer. This will cause timing problems!

Activating the realtime controllers.

CYBER-6 has different realtime-controllers to manipulate the sounds of your synth in realtime. For every zone you can decide, which controller you want to use on and which you don't want to send on the zones midi-channel. With this feature you can decide, that for example the modulation send by wheel 1 would only control the synthesizer, which is controlled by zone 1.

The selection of the midi-controller, which will be send by using the selected realtime-controller is specified in another submenu of the masterkeyboard-edit menu. The determination of the realtime-controller, therefor the midi-controller which will be send by the realtime-controller is the same for all zones. It would be a hard work for midi, if the midi-controller would be different for every zone.

Generally you have two different kinds of midi-controller. The first kind are continuos controllers which you need for parameter-changes like filter-cutoff control, volume-control and so on. The other kind has only switch-functions. The most known usage of this kind of realtime-control ist the sustain-function like at the footpedal of pianos. In the following chart you see the different realtime controls of the CYBER-6.

realtime-controller	menu-page	function
Foot Switch 1	4	switch-function controller selectable
Foot Switch 2	4	switch-function controller selectable
Pitch-Bend	5	reserved for pitch-bending
Wheel 1	5	continuous controller, midi-controller selectable
Wheel 2	5	continuous controller, midi-controller selectable
Aftertouch	5	continuous controller, midi-controller selectable
Pedal-Jack	6	continuous controller, midi-controller selectable
Control 1	6	continuous controller, midi-controller selectable
Control 2	6	continuous controller, midi-controller selectable
Control 3	6	continuous controller, midi-controller selectable

To activate the two footswitches for the selected keyboard-zone, you have to select the sub-menu 4 of the masterkeyboard-edit menu. The following display message appears:

```
<4> Keyboard                               Zone: 1
Transp:C 3 FootSw1:OFF FootSw2:OFF
```

For every zone you can turn the footswitch-function on and off.. Besides the controller-messages like sustain or sostenuto you can also control some internal functions of the CYBER-6 like "Start" or "Stop". When footswitch 2 is used for this kind of functions, the midi-controller usage is disabled. Otherwise you will for example hold a tone (sustain) when starting the sequencer. This makes no sense. You can connect all kinds of footswitches but they must be unlatched. Otherwise the CYBER-6 will not work proper. The polarity of the connected footswitches will be recognized by the CYBER-6 when they are connected before turning the power of the CYBER-6 on.

In the following two sub-menus you will find the continuous controllers:

```
<5> Keyboard Contr. ENABLE                 Zone: 1
PitchB: ON Whl1:OFF Whl2:OFF  Aftert:OFF
```

```
<6> Keyboard Contr. ENABLE                 Zone: 1
Pedal:OFF Con1:OFF Con2:OFF Con3:OFF
```

All the names are a little bit shorten to fit the display-message. For that reason look at the following list:

PitchB	-	Pitch Bender
Whl1	-	Wheel 1
Whl2	-	Wheel 2
Aftert.	-	Aftertouch
Pedal	-	Footpedal-Jack
Con1	-	Control 1 (Regler 1)
Con2	-	Control 2 (Regler 2)
Con3	-	Control 3 (Regler 3)

The footpedal must have a resistance between 10 and 50 KOhm to work proper with the CYBER-6. When first used, the footpedal must be calibrated. This procedure is shown in chapter "Calibration of realtime-controls" on page 54. Best results we had with a Yamaha FC 7 Footpedal.

Invertation of realtime-controllers

Sometimes it's nice to invert the effect of the realtime-controller. Normally you will have the midi-Controller maximum at the end of the range of the realtime-controller. When it's inverted, you will have the midi-controller minimum at the end of the range. A very good usage for this feature is the volume-control of two different keyboard zones. Moving the realtime controller causes on one zone increasing of the volume and at the other zone decreasing the volume. Only thing to do for this result is to invert the realtime-controller at one of the two zones. At the example-program 01, 11 and 21 we have used this feature. Further you have to select the midi-controller 7 (Volume) for the desired realtime-controller. The assignment of midi-controllers is explained in the chapter "Assignment of realtime-controller" at page 20.

You will find the inversion of realtime-controllers at submenu 7 and 8 of the masterkeyboard-edit menu:

```
<7> Keyboard Contr. INVERT          Zone: 1  
PitchB:OFF ModW:OFF FreeW:OFF Aftert:OFF
```

```
<8> Keyboard Contr. INVERT          Zone: 1  
Pedal:OFF Con1:OFF Con2:OFF Con3:OFF
```

The handling of this feature is very easy. You have only to select the zone, which realtime-controller has to be inverted. Then you select the realtime-controller you want to invert and set the value to "ON". At this point, no exercise follows because you don't have learned controller assignment now. Now we have reached the last zone-related parameters. All parameters of the following chapters have parameters, which have an effect to the whole masterkeyboard-program or which can only be used by one of the eight zones at the same-time (motivator-control). For this reason, you will not find the parameter "zone" in the following submenus.

Motivator-Assignment

The CYBER-6 contains two independent motivators. A motivator is the ideal partner for creating machine-sequences like you know from Tangerine-Dream, Klaus Schulze, Kraftwerk and many other electronic musicians. To get to know more about the motivators please read chapter "programming the motivators" at page 26. By assigning the control of the motivators to different zones, you can use the motivators in different key-windows. When you assign both motivators to the same keyboard-zone, you will control both in the same key-window. Furthermore it's possible to control the motivators from the sequencer. At the submenu 9 in the masterkeyboard-edit menu you can change the assignment of the motivators:

```
<9> KEYBOARD MOT1 Zone: -- PROG-NR: 1  
MOT2 Zone: -- PROG-NR: 1
```

At this submenu, you can now select the Keyboard-zone, which will control the motivator. You can also select for both motivators a program-number. Both motivators can store up to 64 programs. You can use them in every masterkeyboard program.

The midi-channel of the keyboard zone is not important for the motivators because the motivators have their own channel-assignment. If you set the zones playmode to "control-only", the keyboard-notes of the selected zone will be only sent to the motivators but not directly to the assigned sound-modules.

Exercise 5: Selecting different motivator-programs

Take an example-program or one of your own patches and try out different motivator-programs on one of the zones. When you have found an interesting combination you can store it. Further information for motivator-programming you will find in the chapter "programming the motivators" at page 26.

If you can't hear your own programs with the correct sound-settings during a motivator-session, you have given both, the masterkeyboard-section and the motivator programs, at one or more times the same midi-channel. Press the "Info"-button to see, if there are some overlapped midi-channels. When there is one position at the channel-usage-display with a flashing or varying character, two or more sections are routed to the same Midi-Channel. This midi-channel will get then one program-change for example from the masterkeyboard and another one from the motivator. Your synthesizer can only produce one sound at the same time and midi-channel. The CYBER-6 will always send first the program-changes of the masterkeyboard section and then the program-change of the motivator track. For that reason, you will have the sound programmed in the motivator at your masterkeyboard zone.

REALTIME-CONTROLLER ASSIGNMENT

Realtime controller assignment

In one of the chapters we handled before, we learned about the activation of the realtime-controllers for every keyboard-zone.. In this chapter we will learn about the MIDI-controllers and the parameters of those realtime-controllers. One thing has to be remembered. The connected expander can only react to MIDI-controllers he knows. So if you select aftertouch, it doesn't mean that the connected synthesizer reacts to it. Look into the MIDI-implementation chart, which MIDI-controllers are known to your synthesizer, before selecting.

In many synthesizers, a datafilter can be activated which can filter different MIDI-controllers out of the MIDI-data flow. In this case the synthesizer is able to understand the data but the willingness to react has to be switched on first. Some controllers can be disabled this way. So if you have a synthesizer that doesn't understand aftertouch, you can select an other controller of the CYBER-6 which is known to the synthesizer.

If you aren't happy with the strength of the tone-changes, look for the modulation-sensitivity of your synthesizer. In most of the synthesizers, it can be changed. The CYBER-6 sends all realtime-controllers in full data, to reach the best possible scaling. This is an indispensable assume to get a continuously variable adjustment. The strength of the influence by the realtime-controllers should always be changed at the tone-generator.

The realtime-controllers can be changed at the pages 10-13 of the keyboard-edit menu. Press the "MASTERKEYBOARD-EDIT"-button and select the pages 10, 11, 12, or 13 by using the "PAGE"-dial. The following message should be displayed:

```
<10> WHEEL 1-Assign      Modulat 1 ***
      WHEEL 2-Assign      GenP1  16 ***

<11>AFTERTOUCH-Assign    AFTERT  ***
      PEDAL-Assign       DrumPitch C2

<12> CONTROL1 -Assign    GenP2  17  ***
      CONTROL2 -Assign   GenP3  18  ***

<13> CONTROL3 -Assign    GenP4  19  ***
      FOOT1-Ass:Hold     64 FOOT2-Ass:PortaSw65
```

As far as the selectable MIDI - controllers have a determined meaning, it is indicated in the display. The pertinent controller - number is always shown. Beside the standardized MIDI - controllers the Cyber-6 also works with the expanded NRPN - controllers.

These MIDI - controllers own a particularity: A NRPN - controller allows the choice of Sound-parameters and the changing of their values at synthesizers with GS - standard. Also our synthesizers QUASAR and TECHNOX accept these controllers. If formerly a direct manipulation of the sound-generator was only possible by using systemexclusive - data , the NRPN - controllers allow to make changes of sound at GS-synthesizers of all manufacturers. Since these controllers contain not only the change of value but also the target of modulation in the sent data, these MIDI - messages are longer than the remaining MIDI - controllers. If the manipulation of the desired parameter is also possible by using one of the standard controllers, you should choose this way, because you relieve thereby the MIDI - interface. In the menus concerning the assignment of the modulation-sources you can recognize these controllers at the fact that no controller - number is placed behind . Some of these selectable NRPN - controllers still have a further restriction beside the MIDI - channel: They refer only to a certain note, that means you can change e.g. the tuning of the hihat in the drumset by one regulator of the Cyber-6, without influencing the remaining drum instruments.

ASSIGNING THE REALTIME-CONTROLLERS

We have already attributed MIDI-controllers to the individual modulation-sources. This facilitates the programming of new patches if one wants to use this routing. If you prefer another standard - routing, you should at first make a certain basis - program, that should always be called up before the preparing of a new program. On the following page you see in the chartlist, which MIDI - controllers are sent by the modulation-sources of the CYBER-6 if you not yet call up a covered program ("Enhanc x").

MIDI-Message	Functions
Channel Aftertouch	Aftertouch/Dynamic of pressure
Controller #1-#31 - therefrom are determined: Modulation (#1), Breath (#2), Foot-Control (#4), Portamento-Time (#5), Data Entry (#6), Volume (#7), Balance (#8), Panorama (#10), Expression (#11), General Purpose (#16-19)	Some of these controllers have determined functions. Corresponding to that they are figured in the display.
Controller #32-#63 - normal LSB for #0-#31	Usually these controllers are used for sending the LSBs of the controllers #0-#31. This would make possible an extreme expansion of the resolution of the first 32 controllers. As this feature is not implemented in any well-known device and otherwise some manufacturers use these controller-numbers in another way, we defined them as conventional controllers. Due to that Owners of the Advanced Memorymoog will be grateful to us.
Controller #70-#79 - defined: Sound Variation (#70), Timbre/Harmonic Content (#71), Release Time (#72), Attack Time (#73), Brightness (#74), the rest is not specified	Sound-Controller - According to the Midi-specification these controllers are used for the controlling of parameters.
Controller #80-#95 - therefrom are determined: General Purpose (#80-#83), Effect Depth 1-5 (#91-#95)	Further Midi-Controllers
NRPN-Controller (#98 LSB, #99 MSB): the following parameters are to be used with the CYBER-6: Vibrato Rate, Vibrato Depth, Vibrato Delay, CutOff-Frequency, Resonance, Attack, Decay, Release, Drum-Instrument-Pitch, Drum-Instrument-Level, Drum-Instrument-Panorama, Drum-Instrument-FX1-Send, Drum-Instrument-FX2-Send	NRPN-Controllers are used in pairs, linked with the Data-entry-controller. The succession of the NRPN-Controllers #98 and #99 determines a parameter, whose value will be changed while calling up the Data-Entry-Controller for the next time. According to the GS-Standard the values of the NRPN-controllers are coupled together with certain parameters of the synthesizers. These relations are equal for all equipment corresponding to the GS-standard. The NRPN-controllers supported by the CYBER-6 are understood by all our Synthesizers as QUASAR, TECHNOX, RAVEN and all forthcoming developments of QUASIMIDI.

We have already attributed MIDI-controllers to the individual modulation-sources. This facilitates the programming of new patches if one wants to use this routing. If you prefer another standard - routing, you should at first make a certain basis - program, that should always be called up before the preparing of a new program. On the following page you see in the index, which MIDI - controllers are sent by the modulation-sources of the CYBER-6 if you not yet call up a covered program ("Enhanc x").

FOOTSWITCH ASSIGNMENT

realtime controller of CYBER-6	edit-page	default assignment
Wheel 1	10	Modulation (# 1)
Wheel 2	10	General Purpose 1 (# 16)
Aftertouch	11	Channel-Aftertouch
Pedal-Anschluß	11	Expression (# 11)
Control 1	12	General-Purpose 2 (# 17)
Control 2	12	General-Purpose 3 (# 18)
Control 3	13	General-Purpose 4 (# 19)

exercise 6: assigning the realtime-controllers

To get to know the operation of the MIDI - controllers, you should include the assignment of the modulation-sources in the masterkeyboard -programs that you have already programmed. Therefore use particularly the already known function not to activate the modulation-sources for all zones simultaneously but just for some selected ones.

The following examples would be conceivable as exercises:

1.) Program a layer-sound, which exists of two simultaneously sounding pad-sounds. Attribute the wheel 1 to the MIDI-controller No. 10 "panorama". Activate this modulation-source for both zones and invert the effect of the wheel for one zone. If you hold the wheel in a middle-position when playing, your pad-sound comes from the middle of the loudspeakers. If you move the wheel upwards the both involved pad-sounds are pulled apart. If you move the wheel over the entire range both sounds change the sides.

2.) Program a layer-program with three overlapping partial-sounds.

Assign the modulation-sources Control 1 to Control 3 (realtime-controls) with the MIDI-controller 7 "Volume". At each zone only respectively one of the three regulators should be activated. Now with the three regulators you can control the level of the three partial-sounds independently, as if using a mixing desk.

Naturally there are numerous further examples for the use of the modulation-sources. Leave your creativity free course. The more time you invest in an individual program, the more fun you will have with it later.

Footswitch assignment

If you own footswitches you can also provide these with different functions. Before you turn on the CYBER-6 the footswitches should already be connected to the corresponding sockets, so that the CYBER-6 can ascertain the polarity of the switches. There are sensors that interrupt a connection when being switched and there are sensors which make a connection when being switched. The CYBER-6 works with both kinds of sensors. To determine the function of the sensors call up again the Edit-submenu 13 of the edit-menus of the masterkeyboard. You receive the following message on the display:

```
<13> CONTROL3 -Assign GenP4 19 ***
      FOOT1-Ass:Hold 64 FOOT2-Ass:PortaSw65
```

The footswitches can either send MIDI-controllers or - in case of the footswitch 2 - control the sequences and motivators. As it makes no sense to execute these steerings simultaneously over a sensor, the footswitch 2 has no function concerning internal functions in the masterkeyboard-section. If this exclusiveness would not exist, the starting of the sequencer by a footswitch could cause e.g. simultaneously the enduring of a sound or the activation of a portamento on one of the zones. The programming of internal steerings of the footswitch is described in the chapter "assignment of special functions for footswitch 2" on page 56. The following MIDI-controllers or internal steerings can be achieved with the footswitches:

REALTIME CONTROL TO SEQUENCER AND MOTIVATOR

Selectable midi-controller:

MIDI-message	Function
hold (#64)	The hold-controller also is depicted as sustain: When a key of the keyboard is hit and the hold-pedal is pressed down at the same time, the played sound is endured.
portamento-switch (#65)	This controller is used to switch on and off the portamento-function of the synthesizer.
sostenuto (#66)	The sustenuto-pedal endures only the actually played notes, all keys that are played later end normally.
soft (#67)	The soft-pedal lowers a bit the value of the velocity.
controllers no. #68 - #79, specified: Hold 2 (# 69)	These controllers have no defined function. Since the first MIDI-specification the controller #69 is defined as Hold 2. We are sorry, but we couldn't find out the difference to controller #64 (Hold).
general purpose 5-8 (#80 - #83)	These controllers are reserved for changes of parameters of sound-generators and have no prescribed functions.

realtime control to sequencer and motivator

The modulation-sources of the CYBER-6 also make possible a direct control of motivator and sequencer-parameters, so that also sequences and accompaniment-patterns of the CYBER-6 become alive. Influencing the cutoff-parameters on a running sequencer-track are likewise possible as the changing of the length of notes (gate-time) of an arpeggiator-pattern.

If you still have no idea about motivators and sequencers at the moment, you can leave out this sub-chapter for the present and come back to it later. Some real-time-modulation-possibilities are already implemented in the sequences which are found in the storage of the CYBER-6 at extradition. They only have to be activated in the masterkeyboard-programs.

modulation of the motivator

To edit the real-time-controllers of the motivator you choose the submenu 14 and 15 in the edit-area of the masterkeyboard. Both submenus are equal: the display-page 14 treats the modulation of motivator 1 and the display-page 15 the modulation of motivator 2:

```
<14> MOT1-Gate-Mod:  Wheel 2 Invert:OFF
                        MOT1-Dyn-Mod:      OFF Invert:OFF
```

requested modulation	parameter	handling/description
changing the gate-time of a motivator-track	Gate-Mod	choose a modulation source which should influence the gate-time of a motivator-pattern.
manipulation of velocity of a motivator-pattern	Dyn-Mod	Here you can also select a modulation-source, in this case for controlling the velocity. So you can even modulate the filters when using a synthesizer-sound whose cutoff-frequency is controlled by the velocity. In the middle-position of the regulator the velocity is not influenced, positions below the middle lower the dynamic-values of the notes, positions above the middle increase the dynamic. This parameter has no influence in the gater-mode of the motivator.

MODULATION OF THE SEQUENCER

Modulation of the sequencer

Inverting the effects of the modulation	Invert	If several parameters should be controlled by one modulation-source it may be meaningful to invert the effect of the regulators. Turning up the regulator causes a lowering of the intensity of the modulation. If the inversion is activated for one of the motivators and switched off for the second one, one can lengthen the gate-time of the first motivator while the gate-time of the second one is shortened.
---	--------	--

But with it the real-time-modulations of the motivator-sequences are not yet exhausted. Of course you can program a masterkeyboard-zone, which sends controllers only on one MIDI-channel which is used by the motivator. The status of this masterkeyboard-zone should be set to "Control-Only" so that no notes are sent from this zone. The same opportunity is implemented for the sequencer-tracks.

The modulation-sources for the realtime-modulation of the sequences are selected on the pages 16 and 17 of the menu. Concerning the realtime-modulation of the sequences we have created something very special. Mostly you will determine the desired modulation already at the programming of the sequences and try it out then. As the 8 tracks of the sequencer according to the patterns will have a fully different construction, it is more meaningful to make the selections there. In the masterkeyboard-programs the modulation-sources determined in the sequencer are simply associated to the regulators. In this way you can change the sequences at retention of a masterkeyboard-program without losing the desired realtime-control. The three modulation-targets determined in the sequencer are marked with SEQ-Mod 1 - 3. The regulators/modulation-sources can be associated to these three targets. Concerning this read also the chapter: "realtime-control of sequencer-tracks" on page 39.

The determination is done in the submenus 16 and 17 of the masterkeyboard-edit-area :

```
<16>      SEQ-Mod1:      OFF Invert:OFF
          SEQ-MOD2:      OFF Invert:OFF
```

```
<17>      SEQ-Mod3:      OFF Invert:OFF
MOT1-Trigger: int    MOT2-Trigger: int
```

The second line of the display still is of no interest, you can find further details in the following sector.

desired modulation	parameter	operation/explanation
selection of modulation-sources for realtime sequencer-modulation	SEQ-Mod 1-3	With this parameter you choose, which modulation-source controls the sequencer-modulation.
Inversion of the effect of the modulation	Invert	If a regulator controls several parameters at one time it can be meaningful to invert the effect of the regulator. Turning up the regulator then causes a lowering of the intensity of the modulation. If the inversion is activated for one sequencer-track and switched off for another track, the filter of the first track can be opened while the filter of the second track is closed.

HOW TO TRIGGER THE MOTIVATORS FROM THE SEQUENCER

How to trigger motivators from the sequencer

If no modulation-source was programmed in the sequencer-patterns, the determination of the regulator still shows no effect. Therefore, if desired, you can control one totally different parameter for each pattern.

Also this submenu mainly is thought for advanced users who already have gotten to know the sequencer and motivator. With the help of this function the rhythm of a freely selectable sequencer-track of the currently running pattern can be used for the rhythmical adaption of the motivator, for example you can transfer the rhythm of a hihat-track directly to the gater (the gater is an element of the motivator and can be used among other things to chop a synth-pad rhythmically). So depending on a selected pattern the rhythm of the motivator changes. A truly marvellous feature which saves the tormented Techno-producer some work. The triggering of the motivators occurs differently, depending on the selected mode of the motivator:

selected operation	name	different trigger-modes
arpeggiator-mode	Arpeg	The trigger-notes of the sequencer change the the step-pointer of the rhythm-grid. When all steps in the grid have been activated, the resulting rhythm-scheme is equal to the rhythm of the sequencer. But if in contrast to that not all steps are activated this causes an alteration in the rhythm. The rhythm may change permanently due to a different number of beats in the sequence and in the groove of the motivator so that it takes many run-throughs up to the first repetition. A marvellous feature for all friends of algorithmic composing!
gater-mode	gater	Here the definitions in the rhythm-grid have no meaning anymore for the resulting groove, it depends exclusively on the sequencer-track that has been selected for the triggering.
chord-play	chord	Works equal to the arpeggiator-mode.

The selection of the sequencer-tracks that shall trigger the motivators is performed in the submenu 17 of the masterkeyboard-edit-area, the accompanying display looks as follows:

```
<17>      SEQ-Mod3:      OFF Invert:OFF
MOT1-Trigger: int      MOT2-Trigger: int
```

In this context only the second display-line is of any interest. For each motivator one of the 8 sequencer-tracks can be chosen. In the position "INT" the motivators work (without being triggered externally) within the discontinued speed and their own rhythmic-scheme.

EDITING THE MOTIVATORS

Editing the motivators

Now let's take a look at the highlights of the CYBER-6 - the motivators. The motivators allow you to produce musical themes and sequences, which are not to be realized with traditional methods, at least it would be very complicated and - of course - very costly. Before you now start an expedition to the possibilities of the motivators, you should prepare a basis-program that works with the motivator. Therefore call up one of the up to now still unused programs. To get to know the motivator we would like to make a program where one of both motivators is controlled over the whole keyboard. The steering keyboard-zone itself should spend no sounds. Select the keyboard-zone 1. For this zone you turn the value of the midi-channel in the masterkeyboard-edit-submenu 1 to: "OFF". In the masterkeyboard- edit-submenu 9 you select the accordingly changed keyboardzone for the motivator 1. Now choose out an up to now unused motivator-programm (In our pre-programmed example-programs the motivator-programs above No. 30 are unused). If you now play a couple of keys on the keyboard, the arpeggiator should start. If it does not, please press the "MOTIVATOR ON/Off"-key. With this key you can switch on and off the motivators at anytime. Press now the "Edit"-key of the first motivator to get to the Edit-menu of the motivator 1. After that you select the first submenu with the "PAGE"-Dial. If you have made everything right, the following message appears in the display:

```
|1> MOT 1 EDIT                      Speed: 120
      Reso: 16  Gate-Time: 65        Mode:ARPEG
```

The parameters are selected with the "CURSOR"-keys (as you already know from the masterkeyboard-edit-menu) and changed with the "+/-"-keys. The following parameters can be changed in this menu:

desired input	parameter	operation/explanation
changing the speed	Speed	The speed is depicted in quarter beats per minute. Here you can pre-determine the speed admittedly, but in another context it can be replaced by another one when calling up the motivator. So the speed of the motivators and the sequencer can be stored in a masterkeyboard-program. If the Cyber-6 is synchronized or triggered externally by sequencer-notes or by footswitch, the pre-determined speed will be unconsidered.
Changing the resolution of the motivator	Reso	In this menu you can select, which value of a note is equal to one beat of the sequencer. The following values are possible: 1/8, 1/12, 1/16, 1/24, 1/32
Changing the length of notes	Gate-Time	The length of the notes can be varied from 1 - 128. Even a realtime-modulation of the gate-time is possible.
changing the motivator-mode	Mode	The different modes of the motivator are explained in the following text

"Mode" is the most important parameter in this submenu and it is used for the choice of the motivator-mode. It depends on the motivator-mode what happens to the played notes. On the following page you see a table where the different types of the motivator-modes are explained. Please regard that this mode can be selected differently for each of the motivators, what leads to an incredible amount of variations.

THE OPERATING MODES OF THE MOTIVATORS

The operating modes of the motivators

operating-mode of motivator	display	function/explanation
arpeggiator	Arpeg	According to the played notes the arpeggiator of the motivator generates exciting sequences. In contrast to conventional arpeggiators these sequences are given out with a much more interesting rhythm than you have ever heard before.
gater	Gater	Depending on the settings the gater-mode has different functions. For the gater you can choose a MIDI-Controller that rhythmically changes its value. The gater got his name from the controlling of the volume: Selecting this controller the used sound is chopped rhythmically, so that in connection with the triggering by the sequencer you can achieve by the use of the gater the typically chopped chords that are so very much popular in the Techno- and Dancefloor-music. Further details concerning the gater-algorithms can be read in the text below.
chord-rhythmizer	Chord	The chord-rhythmizer does not chop the chords, but triggers them rhythmically. In addition to that this function can be used for wave-sequencing.

The gater-modes admit also effects, which are completely new. As standard the gater works with the controller 11 (Expression). For making the gater-effect audible on the QUASAR or TECHNOX, select the controller 11 as free-controller and activate the volume-steering in the controller-matrix of the free-controller in the common-menu of the QUASAR or TECHNOX. Of course you can control also other parameters with the gater if you change the controller-matrix accordingly.

At this point you can let your imagination flow.

Since our own experiments with the controller-matrix led to very unexpected acoustical- and playing-experiences, we have decided without more ado to expand the possibilities of the gater. Also owners of other sound-generators should get the opportunity to influence the sound-parameters of the synthesizers rhythmically. The gater then works like a rhythmic LFO. Originally the gater should work only with the expression-controller. The expansion now allows the inclusion of nearly all MIDI-controllers. Herewith you must consider two important facts:

1.) The gater demands a lot of the used sound-generator. Just at high speeds it can happen, that the used sound-generator cannot cope with it anymore. This leads e.g. to the fact, that the effect cannot be produced synchronously or in completely bad cases it may lead to cracks and similar interferences.

2.) Some sound-generators admit a steering by controllers, but they can process these only when playing the tone once again. In this case you won't hear anything of the gater-effect. Of course this is the same with also for controllers which cannot be processed at all.

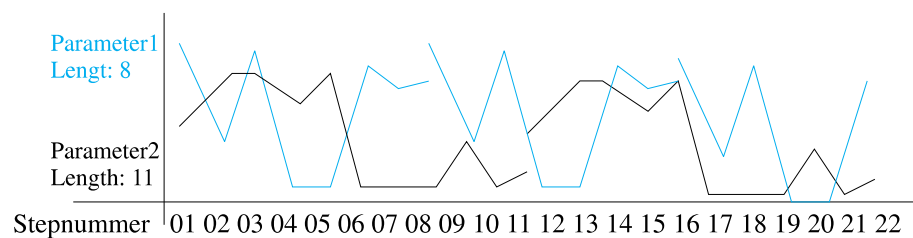
If in the display the cursor is positioned at the parameter "Mode" and as operating-mode the gater has been selected, you can get to the menu for the selection of the controller to be sent by pressing the "Enter"-key. The following message appears on the display after pressing the "Enter"-key:

```
MOT1 Gate-Controller:Volume 7
```

The controller can be selected with the "+/-"-keys. Beside the normal MIDI-controllers also the aftertouch can be chosen as possible MIDI-data-type. In the display always - as far as determined - the controller-name and the corresponding controller-No. is indicated.

Since at the moment you have not yet gotten to know the way how to rhythmize the motivator-patterns, the gater and chord-mode is not yet right interesting. Perhaps you look at the chapter “The rhythmization of the motivator-patterns” before trying out the gater- and chord-mode to make your first attempts with these functions more interestingly. The gater - like the arpeggiator - works with the set dynamic-values of the rhythmization. Instead of using this emphasis directly for the dynamic now the dynamic changes the controller-value of the gater.

If you e.g. modulate the filter of your synthesizer with the gater, the filter is closed and opened differently far according to the dynamic-value of the grids. Thereby you receive rhythmically pulsing pads that are to be realized only on this manner. If both motivators control different parameters of a sound you achieve even more incredible and crazy possibilities. Therefore both motivators have to be set to the same MIDI-channel. Using different rhythms and differing lengths of motifs, the sound changes then continuously and a repetition of the sound-sequence can last - depending on the adjustments - very long. The following chart should elucidate the effect:



With these special application a further large field for experiments emerges. Controlling two parameters simultaneously your sound-generator is demanded naturally still further than at the handling of only one gater - effect.

On the next parameter-page there are further parameters, that exclusively concern the arpeggiator-mode:

```
<2> MOT 1 EDIT
Dir:  UP Oct: 1 Sort:OFF Note-Repeat: 1
```

desired input	parameter	operation/explanation
changing the direction of play	Direction (Dir)	With the parameter “Direction” you determine the direction how the arpeggiator plays the motifs. The notes of the played chords are played in the pre-determined direction when the parameter “Sort” is activated. The following directions can be chosen: “UP” - the notes are played upwards from the lowest to the highest note. “DOWN” - the notes are played downwards from the highest to the lowest note. “UPDN” - the notes are played up- and downwards alternately. “RND” - the notes are played by random in an always changing order. If the “Sort”-function is turned off, these parameters have another meaning. As explained later, in the mode:”Sort:OFF” the arpeggiator plays the notes depending on the order they have been played on the keyboard before. With the values “UP”, “DOWN” and “UPDN” you can let the arpeggiator play this little “sequence” forwards (UP), backwards (DOWN) and alternating for- and backwards (UPDN).

EXERCISE 7: GET TO KNOW THE PARAMETERS ...ARPEGGIATOR

Changing the octave-range of the played notes	Oct	With this parameter you can adjust the arpeggiator so, that it repeats the generated arpeggiator-pattern over the range of some more octaves. Setting the value to "4" the generated pattern sounds four times, but each time transposed one octave higher.
Switching the note-sort according to the play-direction or according to the order the notes were played.	Sort	If this parameter is set to "ON" the notes are played according to the determined play-direction. If the parameter - in contrast to that - set to "OFF", the motivator plays the notes according to the order they have been played on the keyboard. Linked with the setting "Hold=ON" on the next parameter-page you can use the arpeggiator - with the help of this parameter - as a sort of mini-sequencer. Keep one key pressed down and after that play some more notes in the desired order and this pattern will be repeated according to that.
Setting the repetition of notes	Note-Repea	With this parameter you can select, if each note of a generated pattern is to be repeated or not. Each note can be repeated up to four times before the following note is played.

exercise 7: get to know the parameters in the arpeggiator-mode

Choose out the mode "arpeggiator" and "play" experimentally with the parameters that have been explained just before. Only with these settings you achieve lots of possibilities. Further options like e.g. free rhythmizing, emphasis (and so on) of the patterns get much more interesting if you already know the up to now explained parameters and can handle them exactly.

The next page of the display contains on the one hand parameters that show an effect in all operation-modes, on the other hand some that only show an effect in certain modes:

```
<3> MOT 1 EDIT                      Loop: 16
Hold: ON 1Shot:OFF  Velo:OFF  LopFit: ON
```

desired input	parameter	operation/explanation
Switching on the "Hold"-mode	Hold	The parameter "Hold" is used to achieve that the motivator continues to play, even when you lift up your fingers from the keys, it works in all modes of the motivator. The actual pattern is erased when all fingers have been lifted up from the keyboard and then a new combination of keys is pressed. As long as you keep at least one finger on the keys, all notes played afterwards are added to the already running pattern.

The further parameters partly have an effect depending on the rhythmizing of the motivator-motifs described in the next chapter. If some things seem to be left unexplained or unclear in this chapter they will be solved at last in the next chapter.

RHYTHMIZING THE MOTIVATOR-PATTERNS

switching on the counter for the run-throughs	1Shot	If the parameter OneShot is turned "On", the motivator-pattern runs through completely for only one time. Linked with the "Hold"-mode a peculiarity takes place: "Hold: ON" - The pattern runs through completely for one time, even when the keys already have been released. "Hold: OFF" - the pattern only runs through completely when the keys are kept pressed during the run through.
Switching between played and programmed velocity	Velocity (Velo)	When the parameter Velocity is set to "ON" the motivator considers the dynamic of the played in notes. The values of the dynamic that have been set in the rhythmization are not regarded anymore. This parameter has no function in the arpeggiator- and in the chord-mode.
activating the automatic correction of the pattern-length	Length-Fit (LenFit)	Normally the length of the motivator-pattern in the arpeggiator-mode depends on the number of the played notes. If the parameter "Length-Fit" is switched "ON", the pattern-length is determined by the chosen rhythmization and loop-length. This leads to the effect, that a changing of the played chords does not change the rhythm. If you play less notes then steps have been set in the rhythmization, the motivator repeats the played-in notes until the end of the rhythm-motif has been reached and then starts again with the first note. For a better understanding of this function you should also occupy yourself with the next menu: "rhythmization of the motivator-patterns".
Adjusting the loop-length	Loop	Also this parameter influences the rhythmization. One programmed rhythm-motif can contain up to 32 steps. The loop-parameter determines the number of steps after that the motivator turns back to the first position. Because both motivators work totally independently, one can receive slow shiftings between both motivator-patterns when setting different loop-lengths for both of the motivators, so you can let jump back the first motivator after 31 and the second motivator after 32 steps.

rhythmizing the motivator-patterns

In this chapter we get to know about the heart of the motivator. The now following parameters lift e.g. the arpeggiator-possibilities far over that what is already known from traditional arpeggiators. While the rhythmic of normal arpeggiators only consists of stare 8tel or 16tel notes, one can generate vivid figures with our "motivator supported" arpeggiators with accentuations which produce musically costly and refreshing sequences. With the help of the rhythmic schemes the motivator arises to a very tricky generator of ideas. Before you call up this menu, you should select the arpeggiator-mode and put the loop-length on 16. Besides that, when trying out things, it is useful to switch off the One-Shot-mode and to activate the Hold-function. Thereby it is guaranteed that the pattern runs through at parameter-changes, without you needing to keep pressed any key during the edit. If all preparations have been made you can get to receive the display-page 4 of the motivator-edit-menu. The following message should appear on the display:

RHYTHMIZING THE MOTIVATOR-PATTERNS

```
<4>      1111111111111111
MOT 1 RHYTHMIC EDIT  Mode:PLAY Inst:  1
```

If the rhythmic of the motivator has not been changed yet and the loop-length has been set to 16 even the upper line exactly corresponds to the above shown diagram. The indicated figures - the 16 “Ones” - are - connected with the 1-32 steps printed over the display - used for showing the momentary rhythm. In our example each of the 16 steps is given out (loop-length 16). But one more information is hidden in this indication: for each of the now activated steps a so-called “Instrument” 1-8 may be chosen. Eight instruments can be determined in each motivator program. Each “instrument” contains a definition of the MIDI-channel, the bank- and program-change and the volume. If you like to determine one or several instruments before changing the rhythmic please look at the chapter “definition of motivator-instruments”. The changing of the rhythmic is done with the first 32 white keys of the keyboard. They represent the 32 steps of the motivator-rhythm. According to that the corresponding figures are printed above the first 32 white keys. For a better orientation in this system the beats are divided into groups of 8, besides that every 4th beat has been emphasized optically. The raster for the input of the rhythmic from now on is called “GRID”. In this Menu the cursor cannot be moved, it is fixed on the parameter “Mode” which indicates, in which way the inputs done with the keyboard are processed. This parameter can be changed - as usually - with the “+/-” - buttons. The following settings are possible:

desired action	paramete	operation/explanation
trying out the edited motivator-pattern	Play	As even we cannot do magic at all, you cannot play another chord on the keyboard while the same keys are used for the editing of the rhythms. So during the editing you have to set the mode to “PLAY” if you like to play some new notes into the motivator-memory. Then the motivator works as if the edit-mode wouldn’t have been called up at all.
Choosing an instrument to set its positions in the “grid”	Inst	The first 8 white keys of the keyboard are used for selecting one of the eight defined “instruments” (Please read the chapter “Definition of motivator-instruments” to check out how to make the settings). The actually selected instrument is shown at the bottom on the right of the display.
How to set the steps in the grid	Step	In this mode the positions of the notes are arranged on a time-axis. Depending on the before set resolution the current steps correspond to 8th, 12th, 16th, 24th, or 32th notes. Pressing down a key for one time a step is switched off, doing that for a second time it is switched on again. Simultaneously the CYBER-6 notes the dynamic of the pressed key and considers the now selected instrument. If you like to choose another instrument you can do that - without changing the mode - by holding the “ENTER”-button pressed down and playing one of the first 8 keys on the keyboard (representing the 8 possible instruments).

HOW TO EDIT THE INSTRUMENTS OF THE MOTIVATOR

changing the dynamic individually for each step	Dyna	If you are already content with your choice of instruments and the rhythmic but like to correct the dynamic you can do this in the now described mode. The dynamic of each step can be modified by pressing down the corresponding key in the grid with the desired dynamic, the new dynamic-value is immediately related to the corresponding step.
Switching on and off isolated steps without consideration of the dynamic or the chosen instrument	OnOf	If you like to modify the structure of the rhythm without taking into account the definition of the instruments and the dynamic, you can switch on and off individual steps in this mode without influencing the remaining parameters.

<4> 
MOT 1 RHYTHMIC EDIT Mode:DYNA Inst: 1

In the "Dyna"-mode you can see the dynamic-values of the individual steps as bargraphs. The displayed height of each bar represents the level of the actual dynamic-value - as you probably may have guessed or hoped already. Now let's take a look at another very important part of the editing of the motivator: The definition of the MIDI-channels and the sounds that are used by the motivator-patterns.

Depending on the selected instrument a motivator-pattern may sound very differently. In the submenu 5 the instruments can be changed. After the selection of the page 5 of the display you should receive the following message on the display:

<5> MOT 1 INSTRUMENT EDIT Inst: 1
CHAN:A 3 Bank: 0 Program: 1 Volume:100

desired input	parameter	Operation/explanation
Selection of one of the 8 instruments	Inst	The choice of an instrument is done with the "+/-" - buttons.
Setting the MIDI-channels for the chosen instrument	Chan	Once more the setting is done with the help of the "+/-" - buttons. As you already gotten to know in the edit-mode of the masterkeyboard-zones you can use the "INFO"- button for finding an up to now unused MIDI-channel. Just hold down the "INFO"- button and press the key on the keyboard that corresponds to the desired MIDI-channel.
Choosing a program-change-bank	Bank	Synthesizers containing more than 128 program-changes usually accept the bank-change-controller (controller-No. 0). Because of that controller you can select out of 128 banks, each containing up to 128 programs.
Setting of the program-number	Program	With this parameter you select the program-number, that means: the sound of your synthesizer
Adjusting the volume	Vol	With this parameter you determine the volume-level of the instrument.

How to edit the instruments of the motivator

SAVING THE MOTIVATOR-SETTINGS

exercise 8: using all motivator-functions

The Gater-mode of the motivator always uses only the first instrument. Therefore we recommend the use of a pad-sound, like string- or choir-sounds. In the chord-mode all of the eight possible instruments can be used. By the setting of the individual instruments in the grid you can achieve rhythmical wave-sequences.

Now you have already gotten to know all functions of the motivators. The best way to achieve a real appreciation of those functions is to do many practical exercises. For example you should once program the following exercises completely on your own:

1.) Build your own Wave-Station. Therefore you shouldn't be afraid to involve your sound-generators in your programming, e.g.: you should program the envelopes in a way, that the sounds overlap and crossfade. In this way you can create marvellous textures for sophisticated ambient-music. For this type of programs you should use the chord-mode of the motivator.

2.) Do you own a synthesizer that has no realtime-filtermodulation ?

But the MIDI-Multimode is implemented ? Simply program 8 instruments, that play - on different MIDI-channels - an original-sound and its variations. Therefore you first have to copy one sound on different program-places and afterwards you change on each of the eight program-places some parameters, e.g.: the cutoff-frequency of the filter, the resonance or some envelope-parameters. Another jolly possibility is to take the same sound but vary the FX-settings on each program-place. If you now call up the - in the above described manner varied - different variation-sounds one after the other in the grid, the generated pattern sounds as if your synthesizer would have a realtime-control of these parameters. There are no limits to your fantasy and creativity: -Programming different panorama-positions in your variation-sounds you can let the variations move in the stereo-panorama.-Use different intensities of modulation for receiving differing intensities of the influences on each instrument when using realtime-controls.-Programm varying transposes for each instrument to achieve as sort of mini-sequences when pressing only one key. Now lets come to the last step of the programming: saving the before done settings.

Saving the motivator-settings

When you now call up the last menu-page of the motivator-editing with the page-dial, you get to the "Save"-menu:

```
<6| STORE MOT 1 Program in
? 1 used in: 1-ENHANC 1      MOT2
```

With the "+/-" - buttons you can select a program-number where you like to store your motivator-program. As both motivators use different storage-places each of the motivators has to be stored separately. The program-number where the motivator-program is stored can be selected with the "+/-" - buttons. As a control, the CYBER-6 shows, if the chosen number is already called up by a masterkeyboard-program. In this case the name of the depicted program is shown on the display. If this is not the masterkeyboard-program you are editing right now, you should choose another number. An up to now unused motivator-program is indicated by a hatched line on the display. Calling up the storage-routine, CYBER-6 proposes you a program-number that you are already using in the now activated masterkeyboard-program. If you have to change the program-number you should also change the corresponding assignment, so the masterkeyboard-program calls up the correct motivator-program.

how to copy from one motivator to the other one

Instead of the normal storing in this menu it is also possible to exchange motivator-programs between both motivators. Therefore the cursor has to be moved (by the use of the "arrow"-buttons) to the entries MOT1 or MOT2, afterwards press the "ENTER"-button. After that the same storage-menu as described before succeeds, but in this case the target of the storage-menu is the other motivator.

BASICS OF THE CYBER-6 SEQUENCER

basics of the CYBER-6 sequencer

In addition to the motivators the CYBER-6 contains an 8-track-sequencer with a lot of extraordinary features:

- 1.) Drum-programmer as found in elder drum-machines like Roland TR-808 or TR-909.
- 2.) Realtime-control of mutings and transposes by using the keyboard.
- 3.) Direct changes of the song-structure even in live-acts.
- 4.) Track-oriented realtime-modulations that can be assigned to any modulation-source in a masterkeyboard-program.
- 5.) Adjustable groove-algorithms, especially for any kind of House or Rap.
- 6.) Intelligent input-support that even allows a separat input of notes and rhythm of sequences. This allows to play-in very complex sequences without having to look after the playing-capabilities.
- 7.) Simple loop-adaption within the patterns that allows a quick and efficient work.
- 8.) A converter-program for the conversion of Standard-MIDI-Files into the CYBER-6-formate allows to accept sequences from other basis.
- 9.) Recording of any controller-data into the sequencer, e.g. generated from the modulation-sources/regulators of the CYBER-6.

The sequencer of the CYBER-6 has been optimized in a way, that all sorts of modern electronic-music, from TECHNO to AMBIENT and from Berlin to Dusseldorf can be realized and produced in a totally new and innovative manner. The Snapshot-function helps to copy motifs from the motivator directly into the memory of the sequencer for a quick conservation or a further arrangement.

pattern-oriented parameters

For playing in your own sequences please use the "EDIT-SEQ"-button at the top right. If you have already used this menu, please turn the alpha-dial until you reach the first edit-page. The following message should be achieved on the display:

```
|1> SEQUENCER
Pat: 1 CLEAR      Speed:120  Groove:16  0
```

The following parameters are to be found on this page of the display:

desired operation	name	description/explanation
Selecting a pattern	Pat	The sequencer of the CYBER-6 works pattern-oriented, up to 99 Patterns can be stored and managed in the CYBER-6. Unused patterns are indicated with an asterisk behind the number of the pattern. The selection of a pattern has to be confirmed by pressing the "ENTER"-key. In this way you can choose a pattern while the sequencer continues to play the actually selected pattern. If you choose an empty pattern you find another sub-menu on the display, where you have to choose the type of measure.
Erasing a pattern	CLEAR	If you move the cursor to this parameter on the display and confirm with the "ENTER"-button, the actually selected pattern is erased completely, but before that you have to confirm for a second time.
Setting the speed	Speed	The speed can be set directly by using the number-buttons or with the "+/-"-buttons. The speed is not stored in the patterns. In the chain-mode a speed for each song can be set. This speed is valid for the motivators and the patterns called up by the chain.

PATTERN ORIENTED PARAMETERS

Changing the groove-settings	Groove	This parameter changes the grid of the quantizing, so that shuffle- and swing-quantizings become possible. The grid of quantizing is global and is valid for all tracks of a pattern, it is stored in each pattern. 8th and 16th grooves are possible. For each measure four different intensities are possible, they are indicated in percent.
------------------------------	--------	---

For your further exercises you should choose an unused pattern if you don't want to lose one of the already existing patterns. Of course you can also erase patterns if you don't want to keep the example-patterns. Unused patterns are marked - as mentioned before - with an asterisk.

```
| 1> SEQUENCER
Pat:10*CLEAR   Speed:120  Groove:16  0
```

If you confirm this selected free pattern with the "ENTER"-button you will receive the following submenu:

```
Sequencer: Pattern Format
measure length: 4/4
```

With the "+/-" - Tasten you can set the desired measure. Therefore the CYBER-6 allows the following values:

2/4	5/8
3/4	7/8
4/4	9/8
5/4	

After you have confirmed again by pressing the "ENTER"-button the pattern is formatted and can be treated and played in now. Set the tempo. The settings that can be made on the following page of the display are valid for the whole sequencer:

```
< 2> SEQUENCER   Clock:OFF  Sync:INT
Metr: ON Chan:A10 Note:F#2
```

Here, on this page, the synchronization of the sequencer and the metronome are set.

desired operation	name	description/explanation
sending the MIDI-clock-signal	Clock	The sequencer can - if desired - send MIDI-clock-signals for the synchronization with other sequencers or drum-machines. Therefore the parameter clock has to be switched "ON". If this parameter is switched "OFF" the sequencer sends no MIDI-clock-signals. This is very helpful feature for the transfer of patterns or song-chains.

TRACK ORIENTED PARAMETERS

Changing the octave-range of the played notes	Oct	With this parameter you can adjust the arpeggiator so, that it repeats the generated arpeggiator-pattern over the range of some more octaves. Setting the value to "4" the generated pattern sounds four times, but each time transposed one octave higher.
Switching the note-sort according to the play-direction or according to the order the notes were played.	Sort	If this parameter is set to "ON" the notes are played according to the determined play-direction. If the parameter - in contrast to that - set to "OFF", the motivator plays the notes according to the order they have been played on the keyboard. Linked with the setting "Hold=ON" on the next parameter-page you can use the arpeggiator - with the help of this parameter - as a sort of mini-sequencer. Keep one key pressed down and after that play some more notes in the desired order and this pattern will be repeated according to that.
Setting the repetition of notes	Note-Repea	With this parameter you can select, if each note of a generated pattern is to be repeated or not. Each note can be repeated up to four times before the following note is played.

track oriented parameters

The following two pages of the display - page 3 and 4 - contain important parameters concerning the tracks (track-oriented parameters or track-parameters). In all pages dealing with those track-parameters and in the following recording-menus the tracknumber can be chosen, it is always indicated as one of the parameters on the top right of the display. Now call up page 3 of the sequencer-edit-menu with the page-dial to receive the following message:

```

<3> SEQUENCER                      Track:      1
Chan:A10 Bank:  0 Prg: 24 Vol:100
  
```

The following parameters can be selected and varied on this page for each track of the sequencer: a MIDI-channel, a sound-program and the volume of the chosen track. This information is sent at each time the pattern is started.

desired operation	name	description/explanation
choosing the actual track	Track	With this parameter you call up the track to be arranged. The keyboard is directly switched over to the MIDI-channel of this track, so you can already play a bit and select the sound for this track.
Setting the MIDI-channel	Chan	As you already know you can select the sound in this menu on two different ways: 1.) Using the "+/-"-button and 2.) With the "INFO"-button and the channel-usage-display.

TRACK ORIENTED PARAMETERS

calling up a program-change-bank	Bank	Due to the rising amount of different sounds you have to set a bank-change-command before the program-change to select the corresponding program-change-bank.
Setting the program-changes	Prg	Here the sound can be set for the track to be played in.
Setting the volume of the activated track	Vol	With this parameter you can adjust the volume of the selected track. Later, when you have already made some more tracks, this feature becomes more important, because then you can adjust and compare the levels between the tracks.

Further track-parameters are found on the next page of the display:

```

<4> SEQUENCER                                Track:      1
Transp:C 3 KBD-Transp:OFF Length:2  CLR

```

desired operation	name	description/explanation
Choosing a transpose-value for a selected track	Transp	Sometimes one wishes to reach pitches that are situated outside the range of the keyboard of the CYBER-6. Therefore the whole range can be shifted 3 octaves up- and downwards. Besides that this feature can also be used to compensate difficulties concerning extraordinary keys... The transpose-factor can be set by using the “+/-”-buttons or with the help of the keyboard: therefore the “ENTER”-button must be kept pressed and then hit the corresponding key on the keyboard. Of course in this case the cursor must be positioned at the parameter “Transp”.
Activating the keyboard-realtime-transpose	KBD-Transp	Already played-in sequences can be transposed by the CYBER-6 while they are played. This is a marvellous and very helpful feature for live-acts. Sometimes it is meaningful to exclude several tracks from these transposes (e.g.: drum-tracks etc.). In these tracks the parameter “KBD-Transp” has to be switched “OFF”.
Setting the track-length	Length	Each track of the CYBER-6 can have a different length, it can be selected between 1 and 8 bars individually. Shorter tracks are looped automatically up to the length of the pattern. Due to that you can economize a lot of memory if e.g. in an 8-bar-theme the length of a 4th-bass-drum is set to 1. The “Length”-parameter can be changed only in empty tracks, so eventually a track has to be erased before changing the length.
Erasing a track	CLR	If the cursor is positioned at this parameter a track can be erased by pressing the “ENTER”-button. If a track has been erased inadvertently it can be reinstalled with the help of the “UNDO”-function on the next page of the display.

Realtime Recording

Now let's come to an almost acrobatic part of the sequencer-editing - the realtime-recording! Even today it is an always very favourite feature to play-in notes into the sequencer in realtime. Although it sometimes may seem a little bit antiquated or outdated today, we have implemented this feature in the CYBER-6. Call up page 5 in the display to get to the recording-window for realtime-recordings:

```
< 5) SEQUENCER-Record          Track:      4
Record: Normal  Undo  Quantize:16 Mem109
```

The parameters "Undo" and "Quantize" indicated on the display are of a great importance in this recording-mode.

desired operation	name	description / explanation
starting the recording and changing the method of recording between "NORMAL" (erases all that has been played in before and starts a new recording) and "OVERDUB" (adding something to the recordings done before). Besides that another special recording-mode can be chosen for a subsequent treatment of the dynamic with the help of the "Wheel 2".	Record	Pressing the "ENTER"-button starts a pre-counting signal for the length of one bar, then the recording begins. Before starting the recording-session you can switch the recording-mode with the "+/-"-buttons between "NORMAL" and "OVERDUB". 1.) NORMAL - All data stored before are erased. 2.) OVERDUB - The played-in notes are added to the already existing ones. Pressing the "+"-button once more after having already selected the "OVERDUB"-mode, another treat follows, a special recording-strategy called "DYNAMIC". With the help of the "Wheel 2" the dynamic of the already existing notes is recorded anew. Using sounds whose cut-off-frequencies are influenced by the velocity you can record changing filter-sounds without needing any additional memory.
Cancelling an operation	Undo	If you have erased a track inadvertently, recorded a bad overdub track or have just made another boob - don't mind ! With the Undo-function you can always reinstall the last version of your track into the memory.
subsequently improving the timing	Quantize	Now you've got given your best effort but then the skill of your fingers failed. With the help of the "QUANTIZE"-function you can correct dirtily played-in tracks. With the "+/-"-buttons you can select the value of the quantizing, the following values are possible: 8th, 12th, 16th, 24th, and a 32th grid. But if the tracks have been played in too dirtily, even the marvellous feature of the quantizing-function can't correct that anymore.
Indicating the remaining memory	Mem	This parameter cannot be changed, it only indicates the remaining memory.

The "INFO"-button has another function in the sequencer-edit-area: You can switch the just selected track to "Solo". So you have an optimal control of the just played-in tracks.

THE TR-909 DRUM-PROGRAMMER

Exercise 9: The realtime recording

Before you now get to know some further recording strategies, you should apply the features you have already learned in combination with the sequencer. Select a track and a sound of your choice in the track-parameters and start a realtime-recording. In the upper line of the display a bar-counter shows you which position of the pattern is just being recorded. The recording starts after a pre-count with the length of one bar. At the end of the track (the track length depends on the value of the parameter "length") the recording ends automatically. If you don't hear any metronome-signal, you should check the settings on the sequencer-edit-page 2 once again. If you are content with the just done recording you can choose another track, or, if you want to use the same sound once again, you may add recordings to the same track with the help of the overdub-function. Check out the different quantize-grids and listen to the influence of the different groove-settings on your recordings. If you have played a bit with the menus discussed before and gotten to the know the principles, features and effects, you can turn to the two further recording-strategies.

Der TR-909 Drum- Programmer

Call up the sequencer-edit-page 6 and receive the following message on the display:

```
< 6> SEQUENCER-Steps      Track:      1
Drumgrid 16  Step-Rec: Notes
```

Besides the choice of the tracknumber you can see two parameters in the lower line, whereas the first one is of more interest at the moment. It is a parameter and a action-button at the same time. With the "+/-"-buttons you can choose the grid for the drum-programming.

The grid determines, which note values you work with. The following values are possible: 8th, 12th, 16th, 24th, and 32th notes. If you press the "ENTER"-button you receive a display that may remind you of the rhythmization-grid of the motivator-patterns, and really, a certain similarity was intended:

```
.....
Drum-Edit  1/2      Mode:Play Inst: C2
```

Also here each one of the points in the display represents one beat of the before set note values. If you press the sequencer-Start/Stop-button, the sequencer starts and a small running asterisk shows the actual position in the drum-grid. With the "+/-"-buttons you can choose a playing-strategy now. Besides that - depending on the length of the selected track - you can get different areas into the drumgrid with the help of the cursor-buttons. Aside from the marking "Drumgrid" it is indicated, which area of the pattern you are just arranging. If the track-length has been set to 4 measures you can treat max. 2 measures at the same time, as max. 32 notes can be displayed at a resolution of 16th. With the help of the cursor-buttons you can switch between the areas. Depending on that the message "1/2" or "2/2" is indicated on the display. On the right side of the display you can see which instrument has just been chosen, in our case it is C2. Corresponding to the determinations of the GM-standardization this is a bassdrum - if the selected track is set to the drumchannel. TECHNIX and QUASAR have - according to the standardization - a bassdrum on C2, too. Pressing the "EXIT"-button you can leave the drum-grid. In the following chart the different recording possibilities are listed:

desired operation in the drum-grid	name	description/explanation
playing the drumgrooves without any input	Play	This mode does not contain any recording-possibilities, just the actually activated pattern is played. You can use this feature to play a bit drums on the keyboard just try out.

THE CYBER-6 SEQUENCER

realtime-recording	Real	Once again a realtime-recording-mode. We implemented this mode, so that you don't need to switch between the drum-grid and the overdub-recording just to play in a simple pattern in realtime. Please regard, that when doing realtime-recordings in the grid only the before set note-length's are accepted. In a 12th-grid you can't play in 32th notes, so in this case the desired pattern may differ extremely from the recorded one.
playing in the rhythm in realtime using the keys of the keyboard	Roll	The unified order of the drumsounds in the actual GM-specification has certain advantages, but some disadvantages, too. One advantage surely is the fact, that a lot of drumsounds are available on the keyboard at the same time. But a certain disadvantage is, that for each instrument you have just one key to play it, what surely makes it very difficult to play in some quick rolls. In the "ROLL"-mode one selected instrument can be played on all keys of the keyboard at the same time. E.g. a played in glissando generates a roll, as each key is routed to the selected instrument. So due to this feature the recording of difficult rhythms becomes as simple as a game. There are two ways to select the instruments: 1.) Using the "Inst"-mode that is described below, it is only for the selection of instruments 2.) Keep the "ENTER"-button pressed and press the corresponding key of the keyboard. If you have chosen the right instrument you can start the recording session as soon as the sequencer starts running. Here a small asterisk indicates the actual position in the bar, too.
Choosing another drum-instrument or another pitch with the help of the keyboard	Inst	If you selected this mode, you can choose another instrument by pressing the corresponding key on the keyboard without pressing the "ENTER"-button.
Recording in the step-by-step-mode with a matrix	Step	Now this is the edit-mode that made the Roland-drum-computer become legends today: Using the white keys of the keyboard you can set and erase each step of the drum-matrix. But in addition to that the Cyber-6 even records the velocity when setting the steps. The value of the just recorded velocity is indicated by a bargraph for each step, the length of the bar represents the played-in value of the velocity. Please use the digits printed on the display-screen as orientation for the step-number, these numbers have also been printed over the white . keys of the keyboard. The choice of another instrument is done - as described before - with the "ENTER"-button or with the "inst"-mode.

STEP BY STEP PROGRAMMING

additional editing of the velocity	Dyn	If you want to change the velocity, without changing the groove, you should select this mode. Touch the key, which corresponds to Grid position, until you are satisfied. The other way is: press the relevant key simultaneously to moving "wheel 2" .
Delete single or all (hits) steps of a selected instrument	Clr	The way to select the instrument, you want to delete, is also the same. Contrary to Step-mode, you can only delete steps. If you want delete all steps, you have to touch all keys (paint the keyboard).

exercise 10: get to know the drum-programming

You will know that this way of drum programming is an easy way to generate fantastic grooves. You will ask yourself why you operate the drum-grids of "software sequencer programs" with a mouse. By using the keyboard you come to an even faster result. And also this way of drum programming is useful to learn important things of (about) grooves. Select the closed-hihat and "paint" the keyboard. Immediately your selected instrument will play in an straight 16' quantize. If you adjust the 16' groove on 50-100% (page 1 of sequencer-edit-menu) anybody will believe that this groove was made on a hardware-sequencer. step by step in another way : notes first and then the groove.

Step by Step recording

This is the last way of the recording-mode. Please push the exit-button to leave the drum-editor. And now you select the edit-page 6. This way of recording is better for tonal sounds (piano, bass,...). Please select another track of this pattern for the new record. You will see the parameter step-rec beside the parameter drum-grid. With the +/- buttons you can change between

- 1.) Notes -
- 2.) Timing -

Please select notes first when no notes still in memory, because timing without notes?? Put the parameter step-rec on notes and then push the enter-button. Now you have a lot of time to play your e.g. "melody" or "bass-line" (one note-cup of tea-one note-cup of tea-one.....). you can play single notes or completely chords. But you should have to let off the keys for any new step of following timing, because the CYBER-6 have to register the new position in the groove. (????) . If the recording of notes and chords are ready, you can change to the timing-mode (push + button). After pressing the enter-button you will hear the metronome. Each touch of any key will play the next note (or chord). Now you can concentrate to the rhythmic only. With this option you can create the strangest and virtuoso sequencer-lines which your synthesizer ever "heard".

REALTIME CONTROL OF SEQUENCER TRACKS

recording of other controller

The CYBER-6 sequencer allow the recording of MIDI-controller. In the overdub-recording-mode is it possible to record MIDI-controller on a exist track. Now you can concentrat to play the bass line or melody and after this you can record the MIDI-controller. Some of the importantly MIDI-controller are fixed on some controller (e.g. pitch-wheel). You have also the possibilty to give any MIDI-controller to the other controller (e.g Wheel 2).The following table shows you the assignment of MIDI-controller to the hardware-controller.

Controller	MIDI-Con	exception feature/statement
Pitch-Bend	Pitch-Bend	This controller isn't a MIDI-controller real. That doesn't matter for the user. In any case you can pitch your melody.
Wheel 1	Modulation	With this controller you sen the MIDI-controller 1 : Modulation
Wheel 2	Velocity	With this controller you can change the velocity later. This controller are record in the dynamic-mode only. This function is perfect for sounds, which velocity is assigned to the cutoff-frequence.In this way you can record changes of timbre without unnecessarily using up the CYBER-6s memory with MIDI-controller data.
Aftertouch	Aftertouch	Assigned to channel-aftertouch. If you want to record the aftertouch-dates, use teh hardware controller Control 1-3.
Control 1-3	programabl	The controller 1-3 can send any MIDI-controller-date. You can change the assignment for every pattern. You have also the possibilty to assigned aftertouch to control 1-3

You can change the function of the control 1-3 in the sequencer-edit-menue 7and 8. For every pattern SeqMod 1-3 are fixed on control 1-3. You can record this MIDI-controller additional to the other controller (e.g. Pitch-bend). The parameter "Track" has no function in this mode. The parameter "Track" is important for the assignment of realtime-modulation in the play-mode only.

```
<7> SeqMod1: Control 12   Track: 1
      SeqMod2: Control 13   Track: 2
```

```
<8> SeqMod3: Control 14   Track: 3
```

Realtimecontrol of sequencer tracks

On the pages 7 and 8 in the Sequencer-Edit-Mode you can make other adjustments. These adjustments have effect on the realtime modulation of previously played in sequencer tracks via masterkeyboard-programs.As you could already see editing the masterkeyboard programs, the three

SNAPSHOT: COPY MOTIVATOR PATTERNS TO THE SEQUENCER

sequencer realtime controls seq mod 1-3 of the masterkeyboard programs may be routed to the controllers of the Cyber6. The real effect of the controller to sequencer tracks wouldn't be assigned in the masterkeyboard programs. This would mean, that a change of sequencer pattern has to require a change of the masterkeyboard program, of course you want to have in different pattern different assignments of controls. For this reason result the assignment of the kind of modulation in the sequencer pattern and the assignment of "hardware-controller in the masterkeyboard programs. By this trick the combination of sequencer pattern to masterkeyboard programs is free. When you mean that three realtime controller isn't enough you can get a zone of a masterkeyboard program in the "control-only" mode. The controller of this zone would be assigned to the sequencer tracks with same MIDI-channel. It's very easy to program the realtime controller. You have to adjust the realtime controller SeqMod1-3 with the right MIDI-controller. Direct after the controller entering you can adjust the track. Select the sequencer track you want to modulate in realtime.

Deleting MIDI-controller messages

If you want to delete some MIDI-controller data, you have to go to page 9 in the sequencer edit mode.

```
< 9>
DELETE CONTROLLERS of Track: 1
```

By pushing the "+/-" button you can select the track you want to edit. If you want to hear the selected track solo you have to push the INFO button. Now push the "ENTER" button and the MIDI-controller on this track should be deleted. This process could be undone by the UNDO-function.

SNAPSHOT-COPY: Transmission of Motivator themes into the Sequencer.

Using the snapshot function you can transmit Motivator themes directly into the sequencer section. This function seemed very important to us, because the Motivator quite often produces exciting themes, melodies, whatever, and you might want to add them to your archives. Once these notes are transmitted into the sequencer, you can edit them by transposing, adding to them or combining them with other tracks. Since the Motivator themes quite often use multiple MIDI-channels, they can only be copied to empty patterns. Since the snapshot copy function is quite often activated spontaneously, the CYBER-6 automatically locates the next empty pattern and copies the theme to it. When multiple MIDI-channels are used, one track is created within the pattern for every instrument used. You may only transmit the data from Motivator I, but still you may copy the themes from Motivator 2 by simply copying them to Motivator I. This function seemed so incredibly important to us that we built the delightfully well-designed "snapshot-copy" button. Simply press this button while being in the Motivator mode to copy the current Motivator sequence. The following message should appear on your display:

```
REALLY Snapshot MOTIVATOR into Pattern?
ENTER=Yes/Exit=No    1 cycles
```

COPYING TRACK PARAMETERS

Copying track parameters

Using the + / - buttons you can select how many times the rhythm grid will be transmitted into the sequencer. Confirm the action with [ENTER] or abort with [EXIT]. Then you can leave the Motivator mode and press the sequencer's START/STOP button. You should now hear the pattern, this time played by the sequencer. If this doesn't work, read the manual or ask your local fortune-teller. Anyway, when you call the sequencer edit menu, it should play the latest snapshot copy.

Usually you'll want to use similar sounds throughout one entire song, so you probably don't want the entire set of instruments to be changed every time you change a pattern. With the CYBER-6, it is incredibly simple to move all settings from one pattern to another. Simply call page 9 from the sequencer edit menu. This should appear on your display:

```
< 9| COPY-Functions
PARAMETER PATTERN BOUNCE TRACK-COPY
```

If you want to copy nothing but the track-parameters to a another pattern, move the cursor with the cursor buttons, until the PARAMETER option is highlighted and press enter. This following lines should appear on your display:

```
COPY-Function
Copy Parameters to Pattern 1
```

The CYBER-6 automatically choses the next empty pattern to copy to. Still you can choose any pattern you like using the "+/-" buttons. Empty patterns are marked with a "*". After having selected the right pattern, all you have to do is press the "ENTER" -button. If you want, you can enter a new measure in the next sub-menu:

```
Sequenzer: Pattern Format
measure length: 4/4
```

Use the + / - buttons to change the measure, then press "enter"-button. Now you have a new pattern with all the settings from the original.

The following track-parameters will be copied:

MIDI-channel	chan	The sequencer tracks have the same MIDI-channel definitions as the original.
Bank- and Program- change	Bank & Prg	The instrument settings are same as the ones in the original.
Volume	vol	the volume settings are the same
Groove	groove	the settings for the groove are - guess what - the same as in the original
Transpose-settings	Transp & KBD-Trans	The settings for transposing single tracks are copied as well as the settings for real-time-transposing
Sequenzer-modulation-settings	Seq-Mod 1-3	the sequencer realtime-modulation settings are copied.
Sequenzer-Modulations-Einstellungen.	Seq-Mod 1 - 3	Die Definitionen der Echtzeit-Modulationen 1 - 3 werden übertragen.

Copying an entire pattern

To copy a complete pattern to a second pattern number, please select submenu 9 of the sequencer-edit page again. Select with the "cursor"-buttons the entry "PATTERN":

```
< 9| COPY-Functions
PARAMETER  PATTERN BOUNCE TRACK-COPY
```

After pressing the "enter"-button the following display-message will appear:

```
COPY-Function
Copy everything to Pattern 5
```

Select a free pattern-number with the "+/-"-buttons and press the "enter"-button again. Everything of the source-pattern will be copied to the destination-pattern. After this operation, the destination pattern will automatically be selected.

Mix down of tracks using the same midi-channel (track-bouncing)

Sometimes you might want to record complex structures such as drum patterns on different tracks even though they all use the same MIDI channel, so you can work with different quantize settings. Once the pattern is finished you might want to mix these tracks down to one single track to save the space for other things.

```
< 9| COPY-Functions
PARAMETER  PATTERN BOUNCE TRACK-COPY
```

You can do this by choosing the BOUNCE option from the above menu. All tracks sharing the MIDI channel with the current one are copied to it and then cleared for use with other instruments.

Track copy

The fourth function is the track-copy-function which can be used copy single tracks, such as an extremely good drum pattern to another track or pattern. The track-copy function is placed in the copy-functions submenu of the sequencer-edit menu.

```
< 9| COPY-Functions
PARAMETER  PATTERN BOUNCE TRACK-COPY
```

Pick the track-copy option from the copy-function-sub-menu and press the "enter"-button. In the following submenu you can select the desired source track.

```
Copy from Track 1
```

With the "+/-"-buttons you can select the desired source-track. If the sequencer is running, the CYBER-6 will play what you're selecting. Use the "enter" to confirm the selection. Then you will hear the destination pattern and the display-message is changing again:

```
Copy to Pattern 1
```

In this sub-menu you can select the destination pattern with the "+/-"-buttons. When you have found the desired destination pattern, you can choose the destination track.

```
Copy to Track 1
```

Confirm the selection with the "enter"-button. After this procedure the destination pattern will automatically be selected.

THE CHAIN-MODE

The chain-mode

In most cases you'll want to change your masterkeyboard-settings within a song or arrangement to make a contrast between the single parts such as chorus and verse. Should the sequencer be used in the song, it should do these changes automatically. The CYBER-6 does this. You can program masterkeyboard-program changes and / or sequencer-pattern changes. You can even program the number of bars a single "step" is played. Still you can interact with the CYBER-6 and change the song's structure, so you're no longer a slave to your PC based sequencer but your sequencer's partner on stage.

A CHAIN is a sequence of single steps for each of which there are several settings you can manipulate:

parameter of a chain.	name	explanation
Patternnumber	PAT	With each step you can change the pattern. You may as well leave this parameter alone if you want to change the masterkeyboard settings only.
Masterkeyboard-program-number	MKB	You can call a different masterkeyboard program for each step. You may leave THIS parameter alone if want to change the running pattern only. OR you can donate all your money to any of your local petrol stations.
Muting of single tracks	Mute	For every single step you can mute one or more tracks of the current pattern, so you can create variations of the main theme. Still you can interact with a running chain by using the number keys for muting.
Transposing	Transp	You can transpose the pattern in every single step. Still you can use the realtime transposing function if it is switched on.
Realtime transposing via keyboard	Keyb-Trans	For each step you can select whether transposing via keyboard is valid or not. And if it IS, you can select how many steps up or down it will work.

You see - every single step you make is magic. Plus you can even tell the CYBER-6 how many bars to play this step before moving on to the next. The result is a complete song not only changing the pattern but also the masterkeyboard-programs and their included motivator-programs. Running the song will nevermore a fixed process, where you only can run and stop the arrangement. At everytime you can freeze a song-position. Cyber-6 runs the programmed steps until you left the freeze mode. You can also jump back to the last or the next songposition, mute and demute tracks and transpose all sequences in realtime. All these functions you will learn in the next chapters. Up to 99 different chains are waiting for you to prepare.

You reach the chain-mode at the main-menu at page 2. Press the "exit"-button twice and select page 2 with the page-dial. The following display-message appears:

```

<2>      11111111  (MKB:  1 PAT:  1  )  DEL
Chain:  1 Step:  2 Bars:  0              EDIT

```

When this page is called, the chain number is highlighted, so you can choose the chain you want using the + / - buttons or entering a two-digit number and pressing enter. To get a first impression of the way a chain works, choose one of the demo chains suitable for your equipment. There are 6 pre-programmed demos in the CYBER-6. The first two fit the QUASAR, 3 and 4 with the TECHNOX and the last two work with any General MIDI device. When you press [ENTER], the cursor jumps to the next position, which shows the number of the current step. Press the [START / STOP] button to start playing the song. Without any further interference, the song will probably run until the end is reached. Nevertheless there are many possible

PLAYING A CHAIN

Playing a chain

actions you can take to interact with the song. You can transpose the song using the keys of the first octave on the keyboard or mute single tracks using the digit buttons. The currently muted tracks are represented by a "0" in the first line of the display, active tracks by a "1". These actions only change what is actually played, but the settings for the single chain steps stay the same. But this isn't all you can do. As mentioned above, you can "freeze" single steps by pressing the [ENTER] button once, and the current pattern will be looped until you press [ENTER] again.

You can use the second footswitch for this as well, simply call page 4 of the main menu and switch the second footswitch to chain-step. If this footswitch is active in one of your masterkeyboard programs, it's function there is disabled. Another way of interfering with the chain is pressing the + / - buttons to jump to the previous / next step in the chain.

In the first line of the display you can see - apart from the mute-sttings - the current masterkeyboard program and the selected pattern, for example:

```
(MKB: 5 PAT: 5 )
```

means masterkeyboard program 5 and pattern 5 are active in this step, while

```
(MKB:=== PAT:6 )
```

means the masterkeyboard program was not changed, but the pattern was changed to pattern 6.

```
(MKB: 6 PAT:===)
```

means the pattern wasn't changed, but the masterkeyboard program, while

```
(MKB:=== PAT:===)
```

means nothing has changed. This might be useful if you want to change nothing but the settings for muting and / or transposing.

In the second line you can see - apart from chain number and step number - the bars to be played before the next step is called. If the current pattern is looped, this value is 0. This means that when you press the "enter"-button again, the CYBER-6 jumps to the next step.

```
Chain: 1 Step: 2 Bars: 4
```

```
EDIT
```

Working with the chain-mode will show you, why CYBER-6 is called "realtime-enhancer". Never before you have had such an absolute realtime access to the whole keyboard stuff during a sequencer live-performance like on the CYBER-6.

Chain-programming

Now you'll learn how to program a new chain. You can select one example chain and change the parameters or you can start from the beginning with a new chain.

Before you start bugging around with this, you should have programmed at least a few own patterns and / or masterkeyboard programs. Or simply use the pre-programmed stuff. First you should pick an empty chain. They are marked with an "*", except for chain 1, which has "*" no matter if it's empty or not. After confirmation of your choice, you've got a new chain which you can edit: move the cursor until "EDIT" is highlighted and press [ENTER].

```
| 1> CHAIN-EDIT          Speed:120 DEL INS
Step: 1 MKB: = 1 SPLIT1 PAT: 1 Bars: 0
```

The last step is the end-marker and is automatically generated by the CYBER-6. The sequencer is stopped at the end of a chain. For this reason you'll always find the end-marker at the end when selecting steps. In the following list you see the parameters of the first edit-page of the Chain-edit menu:

chain-parameter	name	description
Step number	Step	The step number can be entered here, so you can jump to any of the steps in the chain.
Masterkeyboard program number	MKB	Here you can enter the number of the masterkeyboard program to use in the step. If you want to keep the program, select "NoChange" to avoid unnecessary changes.
Pattern change	PAT	Select the pattern for the current step. Again, select "NoChange" if you do not want to change it.
Number of bars of the current chain-step	Bar	Select a number between 0 and 99 for the number of bars you want the chain be running. If you select "0" the step will run endless until you select the next step in the Chain-play-mode.
Speed	Speed	The speed for the entire chain.
Delete	DEL	Deletes the current step. The following are moved.
Insert	INS	Inserts one step at the current position. The following steps are moved. The inserted step is a copy of the current one. This function is quite useful for creating a number of similar steps, which can be muted and / or transposed later on.

With the page-dial you can select the second sub-menu of the chain-edit menu:

```
< 2|      11111111 Mute
Step: 1  Transp:C 1 Keyb-Transp:-----
```

The following parameter are selectable in the second sub-menu:

chain-Parameter	name	description
Step number	Step	Select the step number you want to edit. You may not insert steps on this page.

Transpose	Transp	If you want the current pattern to be transposed, you can adjust it in half-tone steps using the + / - buttons, or by pressing the [ENTER] button and the desired key on the keyboard simultaneously. If one of the tracks is NOT transposed, or if the drums sound strange afterwards, the track settings in the sequencer are wrong. In the Sequencer-Edit menu you can select for each single track whether it should be transposed or not (for drums preferably NOT).
Activating the realtime-transposing	Keyb-Trans	For each single step you can choose if you want to transpose the patterns in realtime (via the keyboard) or not.
Mute settings	Mute	If MUTE is highlighted you can mute / demute tracks using the digit-buttons. The "0" turns everything off, the "9" on.

In the following table you'll see the possible settings for the realtime transpose option. In case you have an active masterkeyboard layer in the area designated for realtime-transposing, it's MIDI output will be suppressed!

kind of transpose handling	name	description
Realtime-transpose OFF	----	This turns the realtime transpose option off.
Transposing one octave up	1 Oct Up	Pressing the lowest C on the keyboard will make the pattern sound like it was originally meant to sound. The octave above can be used to transpose it UP in halftone-steps.
Transposing one octave down	1 Oct Dn	Again, the first octave of the keyboard is used, and again, the lowest C is the original. The following half-tones start from 11 half-tones down. So the original pitch is the HIGHEST available.
One octave up/down	1UpDn	Again, the lowest C is the original. And now it gets a bit complicated. Until the F the pattern is transposed UP, then, from F# on, it's lower than the original and then gets higher again.
Two octaves up/down	2 Octave	Now, this is simple. The lowest C is one octave lower than the original, the second C is the same pitch as the original, and the the third one is one octave up.

CHAIN DELETE/ MOTIVATOR FREEZE FUNCTION

Now have learned how to program a new chain. Now you will learn the opposite of chain-programming: Chain deleting! The chain-delete function is at the page 2 of the main menu of the cyber. Select this page with the page-dial:

```
<2>      11111111  (MKB:  1 PAT: 1  )  DEL
Chain: 1 Step: 2 Bars: 0                      EDIT
```

Choose the chain you want to delete using the + / - buttons or by entering a two-digit number. Confirm your choice by pressing [ENTER]. Now move the cursor to DEL option and press [ENTER] again. Another sub menu should appear:

```
REALLY DELETE Chain  1?
incl.PAtterns
```

With the + / - buttons you can choose either to delete the chain including all patterns used with this chain (the CYBER-6 automatically excludes those used by other chains from deletion) or

```
REALLY DELETE Chain  1?
only Chain
```

to delete only the chain and leave the patterns alone. Confirm with [ENTER] or abort with [EXIT]. Guess you knew that. Confirm with [ENTER] or abort with [EXIT]. Guess you knew that.

The motivator-freeze-funktion.

Like the chain-mode also the motivator-freeze function is another highlight for live-performance of the CYBER-6. With the freeze-function you can hold a running motivator-sequence with a footswitch. The keyboard zone, which was controlling the motivator transposes this freezed motiv during you hold the footswitch down. The motivator-freeze function is only available at the footswitch 2. So you have to connect a footswitch to the footswitch 2 jack to use the new function. Further you have to activate this function at page 4 of the main-menu. You can choose page 4 with the page-dial. The following display-message appears:

```
< 4> CYBER-6
Footswitch2 Function: Masterkeyb
```

With the "+/-"-buttons you can now select the motivator-freeze-function. The freeze function disables assignments you have made in the masterkeyboard-program for footswitch 2. The freeze function works with both motivators at the same time. If you used 2 different keyboard-zones for the motivator control, you can transpose the freezed motiv at both keyboard-zones.

MIDI-DUMP-FUNCTIONS

MIDI-Dump-Functions

Sooner or later the largest memory is stuffed with good ideas you do not want to delete. With a MIDI dump you can transmit the data to an external sequencer such as the Style Drive for storing them on a conventional 3,5" floppy. If you have an ATARI ST, you can either sell it and buy loads of drugs or use it with the program from the supplied utility disk as a bank loader. The CYBER-6 sends it data as system exclusive data. Using the Style Drive or an ATARI you can make your own archive or share your songs and patterns with other CYBER-6 enthusiasts. Choose page 5 from the main menu:

```
< 5| INIT/DUMP      CALIBRATION
    Dump:----- Init? ----
```

The main menu contains several different option. But for now, only the dump function is of any interest to us. Move the curcor until "DUMP" is highlighted. Now you can select the desired dump mode using the + / - buttons. Once you´ve found the right one, press [ENTER] to start the transfer. The following options are available:

kind of data	name	description
Current masterkeyboard program plus motivator programs	act Keyb+Mot	Transmits the current masterkeyboard program and the Motivator programs. These must must have been saved before you can dump it. If you have changed them and not saved yet, the old versions are transmitted. Save first, then dump
All masterkeyboard programs and motivator programs	all Keyb + Mot	All 128 masterkeyboard programs plus 64 programs each for the two Motivators.
The current pattern	act Pattern	The current pattern. You´ll have to pick a pattern before you can dump it.
All patterns	all patterns	This transmits ALL patterns from the sequencer.
Current Chain	act Chain	This function transmits the chain. And nothing but the chain. No pattern, no masterkeyboard program. This is useful if you want to use one chain for several songs. Just change them slightly, make a few new patterns and there you are.
All Chains	all Chains	All chains, but - as with "current chain" - no patterns and stuff.
Current chain + Patterns + Masterkeyboard programs	1 Chain + data	The entire chain with all patterns and all masterkeyboard programs is transmitted.
All chains + Patterns + Masterkeyboard programs	chains + data	all chains with patterns and masterkeyboard programs.
All	all	Everything

INITIALISATION OF MEMORY AREAS/CALIBRATION

Initialization of the memory

With this function you can reset memory areas of the CYBER-6. Move the cursor until the "INIT?" is highlighted. With the "+/-"-buttons you can choose the option, which memory-area you want to initialize.

```
< 5| INIT/DUMP      CALIBRATION
    Dump:----- Init? ----
```

Now you can choose which areas you want to reset:

memory area to initialize	name	description
Current masterkeyboard program	act KBD	The current masterkeyboard program will be resetted. Thus you get a program equal to an empty one. The original program is not deleted until you save the initialized. Simply recall the program from memory.
motivator1 settings	actMOT1	The settings of motivator 1 are resetted
motivator2 settings	actMOT2	The settings of motivator 2 are resetted
all sequenzer patterns	all PAT	The entire sequenzer pattern memory is cleared
all masterkeyboard programs plus Motivator programs	KBD+MO	All masterkeyboard programs and motivator settings are cleared
All programmed chains	CHAINS	All chains are cleared, but NOT the patterns used therein.

Kalibrierung der Spielhilfen

Use this function to set the realtime-controller ranges and curves. Normally, the factory presets should be ok, except for the external pedals. How should WE know what pedal you're gonna use ??? After a few years it might be necessary to change the internal battery of the CYBER-6. Then the calibration settings are cleared, and you'll have to calibrate the CYBER -6 again. Before you try to calibrate the controllers after changing the battery, you have to initialize the entire CYBER-6 first. Please read the "Complete Initialisation" section in this manual. The submenu for calibration is called from page 5 of the main menu:

```
< 5| INIT/DUMP      CALIBRATION
    Dump:----- Init? ----
```

Move the cursor, until "CALIBRATION" is highlighted and press [ENTER]. The following submenu should appear:

```
| 1| Calibrate      Dynamics: LIN
Controller:      AFTER Value:---
```

The "dynamics" parameter is described in the "Changing the Velocity-curve" section in this manual. For now, only the lower line on the display is of any interest to us. Pick the "Controller" option and use the "+/-" buttons to select the controller to be changed. Then you can enter the lowest and highest values for it and move on to the next.

CALIBRATION OF REALTIME-CONTROLLERS

Action to be taken to calibrate the controllers	options	action
Choosing the realtime-controller	Aftertouch, Pitch-Bend, Wheel1, Wheel2, Pedal, Controller 1-3	Pick the "Controller" option and use the "+/-" buttons to select the controller
Set the MINIMUM value for the selected controller	MIN	1.) Move the cursor to the parameter "value" 2.) Use the + / - buttons to pick "MIN" 3.) Set the controller to minimum value. For Aftertouch, press one or more keys using the amount of pressure that should not trigger the Aftertouch 4.) Press [ENTER], and the value is saved as the minimum value.
Set the MAXIMUM value for the selected controller	MAX	1.) Chose the "MAX" options as described above in step 2 2.) Set the selected controller to the MAXIMUM value. To set the Aftertouch sensitivity, press one or more keys with the highest pressure that is normally used. 3.) Press [ENTER], and the value is saved as MAXIMUM value 4.) Afterwards, the cursor automatically jumps to the "Controller" option so you can choose the next controller to calibrate.
Leaving the CALIBRATE menu	EXIT	Press [EXIT] to leave the CALIBRATE menu

SELECTING THE KEY-VELOCITY CURVE

selecting the key-velocity curve

We're quite proud of the velocity-behaviour of our Keyboard. The velocity evaluation of the operating system is exactly designed to fit the Keyboard. In some cases, though, you might want to use a different velocity-feel. The CYBER-6 has eight different velocity-curve presets from which you can choose. To choose the velocity curve, pick page 5 from the main menu and select the "CALIBRATION" option with the "cursor"-buttons.

```
< 5| INIT/DUMP      CALIBRATION
    Dump:----- Init? ----
```

Then press [ENTER], and the Calibration submenu should appear:

```
| 1| Calibrate      Dynamics: LIN
Controller:        AFTER Value:---
```

Pick the "Dynamics" option. The following settings are available:

name	dynamic-response
LIN	The velocity is linear
-DYN	the velocity curve is slightly compressed. The silent parts are a bit louder, the louder ones a bit mor quiet.
+DYN	The velocity curve is linear, but steeper
FIX	The velocity is not dependant on how you play (85 / 127)
-EXP1	The velocity curve is exponetial and slightly compressed.
-EXP2	Same as -EXP1, but more compression
+EXP1	Exponetial and expanded
+EXP2	A bit more expanded

ASSIGNING OF SPECIAL FOOTSWITCH-FUNCTIONS

Assigning of special footswitch-functions

Apart from the the ones described in the “masterkeyboard edit menu” section, there are a few other special functions assignable to footswitch 2. This functions are available on page 4 of the main menu. Pick this page using the page dial:

```
< 4> CYBER-6
Footswitch2 Function: Masterkeyb
```

Now you can choose the desired function for footswitch2 using the + / - buttons. The following functions are available:

desired function	name	description
Masterkeyboard function	Masterkeyb	The CYBER-6 uses the settings from the current masterkeyboard program
Remote control in the CHAIN mode	Chain-Step	While being in the CHAIN-STEP menu, you can use the footswitch like [ENTER] to freeze a step. If there is no step length programmed, the footswitch can be used to simply jump to the next step. The masterkeyboard footswitch-function is disabled in this mode.
Sequencer Start/Stop	Start/Stop	This function enables you to use the footswitch 2 to start or stop the sequencer. Again, the function assigned to footswitch 2 in the masterkeyboard program is disabled.
Freezing a Motivator sequence and enabling the Motivator transpose function	Mot-Freeze	This setting enables the a special Motivator function. As long as the footswitch is held down, no new notes can be entered in the Motivator mode, but the assigned part of the keyboard can be used to transpose the sequence in realtime.

The function of the footswitch 2 will be memorized automaticly.

COMPLETE INITIALIZATION

COMPLETE INITIALIZA- TION

You should initialize the CYBER -6 completely

- 1.) When you want to recall the preprogrammed patterns.
- 2.) When the internal battery was changed
- 3.) When you're told to do so by our service department

Since all sequencer patterns and masterkeyboard programs are cleared during the complete initialisation process, you should save them first with a MIDI dump.

This is how you do it:

procedure of initialization
1.) Turn your CYBER-6 off
2.) Press and hold the "INFO" and the "1" button simultaneously while turning the CYBER-6 back on.
3.) This message should appear on your display:
REALLY LOAD PRESET DATA INTO RAM ENTER: YES / EXIT: NO
4.) Press [ENTER] to initialize or [EXIT] to abort. After a few seconds the CYBER-6 is ready to play
5.) Calibrate the controllers as described above.

To initialize single memory areas, consult the "Initialization of memory areas" section in this manual.

The Sysex-Dataformat

CYBER-6 SYSTEM-EXCLUSIVE Format

=====

Request Data from device: (V1.0 ff)

Byte No.	Value	Remarks
0	F0	System Exclusive start command
1	3F	Quasimidi id number
2	00	device number
3	24	CYBER-6 id number
4	52	(R)equest data
5	ah	adress high
6	am	adress mid
7	al	adress low
8	dh	data count high
9	dl	data count low
10	F7	end of System Exclusive

Dump Data to device:

Byte No.	Value	Remarks
0	F0	System Exclusive start command
1	3F	Quasimidi id number
2	00	device number
3	24	CYBER-6 id number
4	44	(D)ump data
5	ah	adress high
6	am	adress mid
7	al	adress low
8...	dt	data (7 bit)
...	F7	end of System Exclusive

Adress Map

=====

H	M	L	
00	xx	00	Masterkeyboard-Program xx (0..127)
01	xx	00	Motivator-Program xx (0..63 MOT1, 64..127 MOT2)
02	xx	00	Pattern-Nr xx (nibbled!)
03	xx	yy	Chain-Nr xx, contains yy steps (nibbled) (important!)

Notes:

Only entire programs / patterns / chains may be transmitted and thus should always received entirely. Incomplete / corrupt data for patterns / chains can lead to complete chaos in your CYBER-6 memory! For the same reason, the amount of steps in a chain is implicated in the Chain adress LOW (so the CYBER-6 can calculate the memory space needed in advance and not overwrites othe data). The data in the pattern and chain areas are nibbled, using one byte for the higher 4 bits and one for the lower 4 bits.

Detail-Information

masterkeyboard-program

amount of bits	meaning
8	lowest key of zone (36..96)
8	highest key of zone (36..96)
8	channel of zone (0=Off,1..16=A1..A16,17..32=B1..B32)
8	transpose (0..36..72=3 Okt ab,0,3 Okt hoch)
8	MIDI-bank-change 0..127
8	MIDI-program -change0..127
8	MIDI-Volume 0..127
16	2 Bytes perZone for Controller-Activity bit0..3
16	dito for Invertation
8	per zone: bit 0 Foot-Control 1 Enable bit 1 Foot-Control 2 Enable bit 2 0=Poly,1=Mono bit 3+4 status play/remote/control
8	reserved
8	program name
14	2 byte for Wheel1,Wheel2, Aftertouch,Pedal,Cont1,Cont2,Cont3 1.byte Controller-Nr 0=Aftertouch,1..63=Control 1..63, 64..90=Control 70..95,91..98=NRPN,99-103 Drum-NRPN 2.byte bei Drum-NRPN: Drum-Note
9	reserved
1	Controller-Nr for Footswitch1 0..19=Control 64..83
1	dito Footswitch2
1	Motivator 1 Source 0=off,1..8=Zone1..8,9..16=Track 1..8
1	Motivator 1 Program 0..63
1	Motivator 2 Source
1	Motivator 2 Program
1	Mot1 Gate Modulation Source 0=Off,1..7 Wheel1,2...
1	Mot1 Gate Modulation invert 0,1=Off,On
2	Mot1 Dynamics Modulation
2	Mot2 Gate Modulation
2	Mot2 Dynamics Modulation
1	Sequencer Modulation 1 Source 0..7
1	Sequencer Modulation 1 invert 0,1
2	Sequencer Modulation 2
2	Sequencer Modulation 3
1	Motivator 1 Trigger (0=intern clock, 1..8 = Track 1..8)
1	Motivator 2 Trigger (0=intern clock, 1..8 = Track 1..8)(0=intern clock, 1..8 = Track

Motivator-Program

1	Note-Repeat 1..4
1	Octaves (only arpeg-mode) 1..4
1	Gate-Time 0..127
1	bit 0..2 Resolution 0..4=8tel,12tel,16tel,24tel,32tel
	bit 3..4 Direction (arpeg-mode) 0..3=up,down,up+down,random
	bit 5..6 Mode 0..2=arpeg,gater,chord
1	bit 0 reserved
	bit 1 sort
	bit 2 hold
	bit 3 velocity
	bit 4 reserved
	bit 5 oneshot
	bit 6 length-fit
32	Rhythmik
	bit 0..2 Instrument 0..7=Inst 1..8
	bit 3 On/Off für beat
	bit 4..6 Dynamik
1	loop-length 1..32
8	channel of Instrument 0=off,1..32=A1..B16
8	Bank of Inst 0..127
8	Program of Inst 0..127
8	Volume of Inst 0..127
1	Gater-Controller-Nr 0=Aftertouch,1..90 Controller 1..63,80..95

Chain-mode

1	speed in BPM
	per Step 6 bytes
1	Masterkeyboard-Program-Nr 0=No change,1..128 Program,255 End
1	Pattern-Nr 0=No change,1..99 pattern,255 End
1	number of bars 0=endless,1..99
1	sequence-transpose 0..12..23 in halftones
1	track-muting bit0=Track1,bit1=Track2,...
1	keyboard-transposer 0=off,1=1Octave up,2=1Octave down, 3=1/2Octave up+1/2 Oct down,2 Octave range

converting of standard-MIDI files into the cyber-6's dump format

Together with the CYBER-6 you'll get a disk which includes a program, that allows you to convert standard MIDI-files into the format used by the CYBER-6. Afterwards, the MIDI-file can be dumped to the CYBER-6. Thus, a convenient way of exchanging data between the CYBER-6 and your sequencer program is possible. Since this program was not ready for the deadline of this manual, the manual for it is included on the disk as well. The program is available in 2 different versions, supporting IBM PCs (286 min + MIDI interface) as well as ATARIs (260 ST). There are 2 directories on the disk:

- 1.) ATARI
- 2.) IBM

All files necessary for the use of this programs are contained within these directories. Read the file Convert.TXT for installation and operation.

MIDI-IMPLEMENTATION

MIDI-Implementation

Function...		Transmitted	Recognized
Basic Channel	Default Changed	1 A 1-16, B 1-16	x
Mode	Default Messages Altered	x 0 mono/poly x	x x x
Note Number	True Voice	0 0	x x
Velocity	Note On Note Off	0 0	x x
After Touch	Keys Channel	x 0	x x
Pitch Bend	MSB (7 bit) LSB (14 bit)	0 x	x x
Controller	Continuous MSB 0-31 Continuous LSB 32-63 Control Change 64-95 98 NRPN LSB 99 NRPN MSB 120 all sounds off 121 reset all controller	0* 0* 0* 0 0 x 0	x x x x x x x
Program Change		0	x
System Exclusive		0***	0***
System Common	Song Position Song Select Tune Request	x x x	x x x
System Real Time	Clock Commands	0** 0**	0** 0**
Aux Messages	Local On/ Off All Notes Off Active Sens. System Reset	x 0 x x	x x x x
x = No 0 = Yes * = free programmable ** = Sequenzer/Motivator Sync-Clock *** = Dump-Functions			

WARRANTY AGREEMENT

Our address:

QUASIMIDI GmbH
Bahnhofstr. 44
35282 Rauschenberg
Germany

How to validate the warranty

To validate your warranty, fill out the enclosed warranty card and return it to QUASIMIDI within ten days of the purchase date. Without returning the warranty card we only grant for 6 months of full warranty instead of 12 months.

What is covered and what is not covered ?

This warranty covers all defects in material and workmanship for six (twelve) months from the date of original purchase. This warranty does not cover damage to or deterioration of the external cabinet or internal circuitry resulting from accident, misuse, neglect, attempted unauthorized repair or failure to follow instructions in the owners manual.

This warranty does not cover units that have been modified or altered (The only exception is an Authorized QUASIMIDI modification which includes its own warranty coverages).

This warranty does not cover damage that may occur during shipping.

Software/Firmware are sold as is and are not covered by warranty.

QUASIMIDI accessory items are covered under a separate limited warranty.

How to obtain warranty performance

Return your unit to an Authorized QUASIMIDI Repair Station. If you are unable to locate one, write or call the QUASIMIDI Factory Service Department. We will either refer you to an Authorized Repair Station or issue you a return authorization number for factory service. Units returned to QUASIMIDI for factory service must prominently display the authorization number on the outside of the shipping carton and on all related documents or units will be returned freight collect. You must pay all shipping costs to and from the factory.

Shipment of the product to QUASIMIDI is the responsibility of the owner, and should be insured by the owner for the full value of the product.

NO CLAIM FOR WARRANTY WILL BE HONORED WITHOUT PROOF OF PURCHASE

Limitations of implied warranties and exclusion of certain damages

Any implied warranties, including warranties of merchantability and fitness for a particular purpose are limited in duration to the length of the warranty.

QUASIMIDI's liability, for any defective product, is limited to repair or replacement of the product.

QUASIMIDI shall not be liable under any circumstances for:

1. Damages based upon inconvenience, loss of use of the unit, loss of time, interrupted operation or commercial loss.
2. Any other damages, whether incidental, consequential or otherwise, except damages which may not be excluded under applicable law

WARRANTY-CARD

TECHNICAL-SPECIFICATIONS

CYBER-6

Masterkeyboard-Controller with special realtime acces, motivators and sequencer

Weight: 12.5 KG

Connections: 2 footswitch-jacks, 1 footpedal-jack, MIDI-In-, MIDI-Out- and MIDI-Thru-jack.

Power-requirement: 110 V, 60 Hz, 10 Watt max.

Physical dimensions: Width:1025mm, Heigth:102 mm, Depth 388mm